

THE AUTOMOBILE

Maxwells Alone Perfect in Glidden



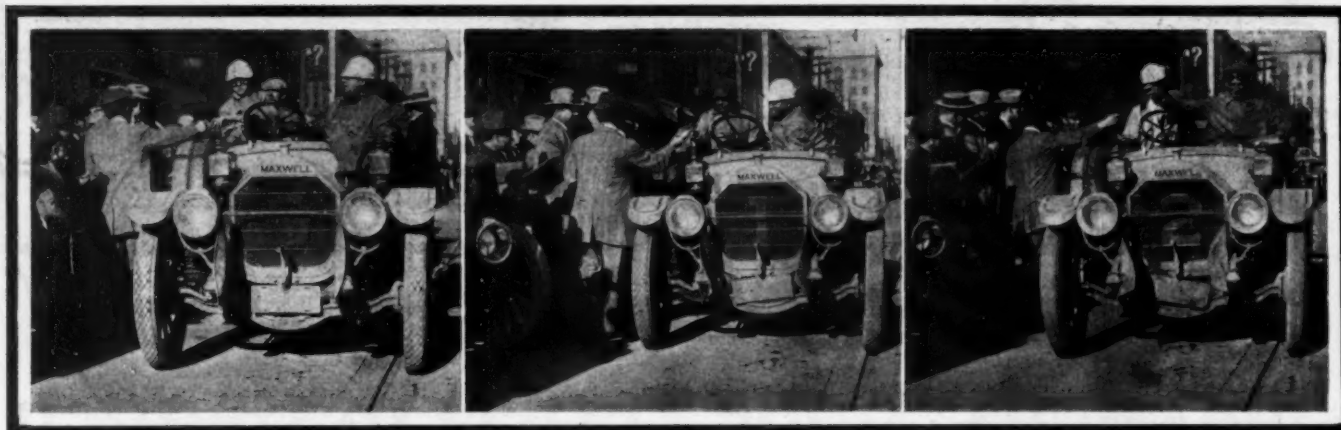
THE FORD OVER BACK CREEK STALLED A SCORE OF CARS

It was a magnificent sight down Peachtree street with the Glidden cars moving sedately between solid masses of cheering citizens. On the other hand it was cruelly hard upon the cars themselves. They had just finished a long run in warm weather like July in New York, and many of them were short of water when they checked in. The course was long, and naturally the cars had to proceed at a slow rate with frequent stops and starts. The immediate result was that several of the contesting cars seized pistons and experienced overheating during the parade. The final results are problematical, but it is reasonably certain that several of the clean-score cars will suffer from the parade when they get into the deep Florida sands that are promised for Wednesday and Thursday.

The roads to-day were only fair. In South Carolina and in Georgia, on both sides of Commerce, the highway is largely unimproved, save for considerable grading. The schedule was not hard and only six cars suffered penalties. The chief of these will fall upon Oldsmobile No. 60, which broke its steering yoke and right front spindle north of Commerce. The car had just crossed a bridge and plunged into a chuck-hole. In trying to extricate it, the steering gear gave way. Case car 71 suffered much

ATLANTA, GA., Oct. 21—The most tremendous demonstration in the world's history, as it applies to automobiling, took place this afternoon when almost 1,500 automobiles belonging in Atlanta and vicinity paid tribute to the Glidden tourists by escorting the tour from Buckhead, 6 miles out, to the parking space of the contesting cars. There never was anything like the reception tendered to the Gliddenites. Business ceased in Atlanta and the whole town moved out to see the cars come in.

The streets were filled from house walls to the narrow aisle reserved for the cars, with pedestrians anxious to see the long line of cars. The Atlanta newspapers devoted their whole front pages to the affair in preparing this city for the advent of the tourists.



The Tarrytown Maxwell team, which was the only trio that had reached Atlanta without being penalized

tire trouble all day and was not reported to-night. Oldsmobile 65 lost its clean score to-day, being delayed 17 minutes by tire trouble. The other penalizations were inconsequential.

It was a hard day on tires from start to finish, owing to the loose surface and lack of traction in numerous spots.

The Maxwell Tarrytown team retained its lead with a clean score for all cars composing it. Save for some minor adjustments that will be made on Tuesday's running time all the cars finished the day in just as good apparent condition as when they left New York. Just how much they were affected by the

TABLE SHOWING EQUIPMENT AND PENALIZATION OF CONTESTING CARS IN GLIDDEN TOUR.

Team.	Number.	Car.	Magneto.	Carbureter.	Tires.	Sizes.	Penalization.
Tarrytown.....	1	Maxwell	Splitdorf	Stromberg	Ajax	35x4 1/2	0
	2	Maxwell	Splitdorf	Stromberg	Ajax	35x4 1/2	0
	3	Maxwell	Splitdorf	Stromberg	Ajax	35x4 1/2	0
Atlanta 2.....	11	Stevens-Duryea	Bosch	Stevens-Duryea	Diamond	36x4 1/2	0
	39	Stevens-Duryea	Bosch	Stevens-Duryea	Goodrich	36x4 1/2	0
	66	Stevens-Duryea	Bosch	Stevens-Duryea	Fisk	36x4 1/2	19
Jacksonville.....	32	Cadillac	Delco System	Cadillac	Morgan & Wright	37x4 1/2	0
	40	Cadillac	Delco System	Cadillac	U. S.	37x4 1/2	0
	47	Cadillac	Delco System	Cadillac	Morgan & Wright	36x4	23
Atlanta 3.....	43	Ford	Ford	Kingston	Fisk	30x3 front-30x3 1/2 rear	125
	44	Ford	Ford	Kingston	Firestone	30x3 front-30x3 1/2 rear	0
	45	Ford	Ford	Holley	Fisk	30x3 front-30x3 1/2 rear	0
Florida.....	28	Cadillac	Delco System	Cadillac	U. S.	37x4 1/2	4
	29	Cadillac	Delco System	Cadillac	U. S.	37x4 1/2	226
	37	Cadillac	Delco System	Cadillac	Hartford	37x4	14
Live Oak, Fla.....	31	Cadillac	Delco System	Cadillac	Morgan & Wright	37x4 1/2	249
	51	Cadillac	Delco System	Cadillac	Morgan & Wright	37x4 1/2	13
	74	Cadillac	Delco System	Cadillac	U. S.	36x4	3
Atlanta 1.....	8	Flanders	Splitdorf	E.M.F. Flanders	Firestone	30x3 front-30x3 1/2 rear	296
	63	Flanders	Splitdorf	E.M.F. Flanders	Firestone	30x3 front-30x3 1/2 rear	104
	61	Flanders	Splitdorf	E.M.F. Flanders	Firestone	30x3 front-30x3 1/2 rear	5
Nashville.....	56	Marathon	Remy	Schebler	Goodrich	34x3 1/2	225
	57	Marathon	Remy	Schebler	Goodrich	34x3 1/2	210
	58	Marathon	Remy	Schebler	Goodrich	34x3 1/2	43
Detroit, Mich.....	53	Flanders	Splitdorf	E.M.F.	Firestone	30x3 front-30x3 1/2 rear	612
	54	Flanders	Splitdorf	E.M.F.	Firestone	30x3 front-30x3 1/2 rear	0
	55	Flanders	Splitdorf	E.M.F.	Firestone	30x3 front-30x3 1/2 rear	416
Georgia-Dixie.....	4	Maxwell	Splitdorf	Stromberg	Ajax	35x4 1/2	0
	49	Columbia	Bosch	Columbia	Diamond	35x4 1/2	0
	50	Maxwell	Bosch	Stromberg	Ajax	34x4	1000 (Non-Con.)
Atlanta Journal.....	5	American	Bosch	Stromberg	Fisk	40x4	0
	6	Thomas	Bosch	Mayer	Goodyear	36x4 1/2	1000 withdrawn
	7	White	Bosch	White	Goodrich	34x4	27
Cordele, Ga.....	60	Oldsmobile	Bosch	Nelson	Goodrich	34x3 1/2	1150
	65	Oldsmobile	Bosch	Nelson	Firestone	39x5	17
	69	Oldsmobile	Bosch	Nelson	Diamond	38x4 1/2	1
Everglades.....	33	Cole	Bosch	Cole	Firestone	34x4	181
	46	White	Bosch	White	Diamond	34x4	1050 withdrawn
	48	Cadillac	Delco System	Cadillac	Morgan & Wright	36x4	0
Albany, Ga.....	34	Halladay	Bosch	Schebler	Fisk	36x4	63
	35	Halladay	Bosch	Schebler	Fisk	36x4	228
	36	Halladay	Bosch	Schebler	Fisk	36x4	1031 (Non-Con.)
Waltham, Mass.....	15	Metz	Bosch	Holley	Goodrich	30x3	160
	16	Metz	Bosch	Holley	Goodrich	30x3	385
	17	Metz	Bosch	Holley	Goodrich	30x3	1000 withdrawn
Atlanta 6.....	18	Garford	Bosch	Garford	Goodyear	36x4 front-36x4 1/2 rear	970
	19	Mitchell	Splitdorf	Holley	Morgan & Wright	36x4 1/2	0
	20	Schacht	Mea	Schebler	Goodyear	34x4	1000 (Non-Con.)
Atlanta 4.....	10	Pierce-Arrow	Bosch	Pierce-Arrow	Goodyear	36x4 1/2	26
	12	Marmon	Bosch	Schebler	Fisk	36x4	1000 withdrawn
	64	Pierce-Arrow	Bosch	Pierce-Arrow	Fisk and Diamond	37x5 front-36x4 1/2 rear	1108 withdrawn
Atlanta 7.....	21	Corbin	U. & H.	Schebler	Morgan & Wright	34x4	23
	14	White	Bosch	White	Diamond	32x4	2133 (Non-Contestant)
	22	Thomas	Bosch	Mayer	Goodyear	38x5 1/2	0
Unteamed Cars.....	26	Mitchell	Splitdorf	Holley	Kelly-Racine	33x4	18
	27	Chalmers	Bosch	Rayfield	Goodrich	35x4	13
	41	Winton	Bosch	Stromberg	Goodrich	37x5	54
	42	E.M.F.	Splitdorf	E.M.F.	Morgan & Wright	33x4	2164 withdrawn
	52	Packard	Bosch	Packard	Swinehart	34x4	14
	59	Cadillac	Bosch	Cadillac	Goodyear	36x4	146
	70	Krit	Bosch	Stromberg	Goodrich	32x3	45
	71	Case	Remy	Stromberg	Firestone	34x4	429
	73	Mitchell	0
	72	Haynes	Eiseman	Stromberg	Goodyear	36x4	728

†Not reported at Atlanta night control.



The long line of cars stopped at Lexington, Va., to allow the tourists to inspect Washington and Lee College

parade through Atlanta remains for the Florida sands to tell. The Stevens team and the Cadillac team added nothing to their demerits and the Fords maintained their status. The Oldsmobile team is out of the running, although it is likely that all three cars will finish the tour.

Aside from the Maxwell factory team, the other clean scores are the following: Maxwell 4, American 5, Stevens 11, Mitchell 19, Thomas 22, Cadillac 32, Stevens 39, Cadillac 40, Ford 44, Ford 45, Cadillac 48, Columbia 49, Flanders 54, Mitchell 73.

Atlanta is taking more than a curious interest in the tour and the tourists. Upon arrival at headquarters in the Georgian Terrace Hotel, a magnificent new hostelry, the members of the tour were presented with engraved invitations from nine of the chief social and professional organizations of the city to make themselves at home in the various club quarters.

There was a dinner to-night at the Piedmont Club and on Monday there will be a barbecue and theater party, beside quite a number of less formal entertainments.

It has been estimated so far that the souvenirs, such as toilet accessories, cold-cream, tobacco and other small articles that have been heaped upon the tourists along the route, cost their purchasers not less than \$2,000. They have been of real use. For instance, before reaching Charlotte a package was handed to each member of the tour containing toilet soap, talcum powder, toilet water and tooth-paste, all the gift of the local Y. M. C. A. Equally appropriate were a number of the other gifts.

After the fierce runs of mid-week, the last two days have been rather easy and quite monotonous.

One feature of the tour which is attracting deserved favorable comment is the work of the official cars. The Reo pilot cars have performed their work in a manner that leaves nothing to be desired, while the Cunningham pacemaker has met the severe test imposed upon it without flinching. Even the Chalmers press car, handicapped as it is with many pounds of over-fed newspaper men, has finished each day's run well up ahead of the line.

The trio of baggage trucks—Marathon, Reo and Federal—are seldom far behind when the night control is reached.

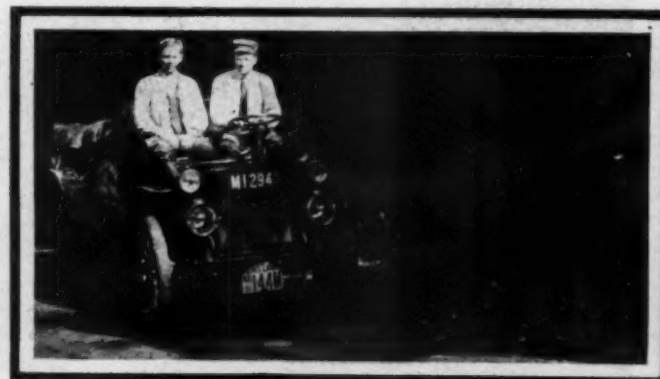
60 Miles Through the Night

WINSTON-SALEM, Oct. 18.—Yesterday's wild race from Natural Bridge to Roanoke over seething roads and through a deluge of driven rain was discounted in its spectacular features by the night ride at top speed that featured to-day's run. Definite penalties were charged against 23 contesting cars, while seven failed to put in an appearance at night control up to the time the official report was made up.

The deluge of yesterday was so great that it was doubtful whether the cars would start at all during the day, but about 10 o'clock the word was given that the cars would be allowed to proceed as far as Rocky Mount without being checked out until arrival at that place. The difficulty lay in the condition of Back Creek, five miles from Roanoke, which was swollen to flood size. The cars forded this stream on their own power in large measure, but about twenty of them were stalled in midstream through the short-circuiting of magnetos and the flooding of carbureters. The column finally reached Rocky Mount around 4 o'clock and it was discovered that the checking out station had been moved along about 9 miles. The route up into the Blue Ridge was wonderfully beautiful everywhere except under the wheels of the cars. The hills were steep over Lynville Mountain and beyond, and except for short stretches the road was so bad that the cars barely crawled. The checking out station was 40 miles from Roanoke and 20 miles north of Martinsville, where noon-control was to have been established. Those 20 miles added the finishing touches to the majority of the clean scores, for they were all but impassable on account of the slippery going. Martinsville was reached just as night was falling. One by one the big blazing stars came out and the shadows from the wild woods swallowed up the moonless road.



New six-cylinder Chalmers press car



The Reo baggage truck performed splendidly

Bridgeless Peck Creek, Which Was Swollen by the



1—At the top of the ridge, going down toward Peck Creek
3—Two cars stalled in the stream at the same time

2—How the radiators were covered to keep out the water
4—Maxwell No. 1 started across with a rush and landed safe

Continued Rains, Gave the Tourists Untold Trouble

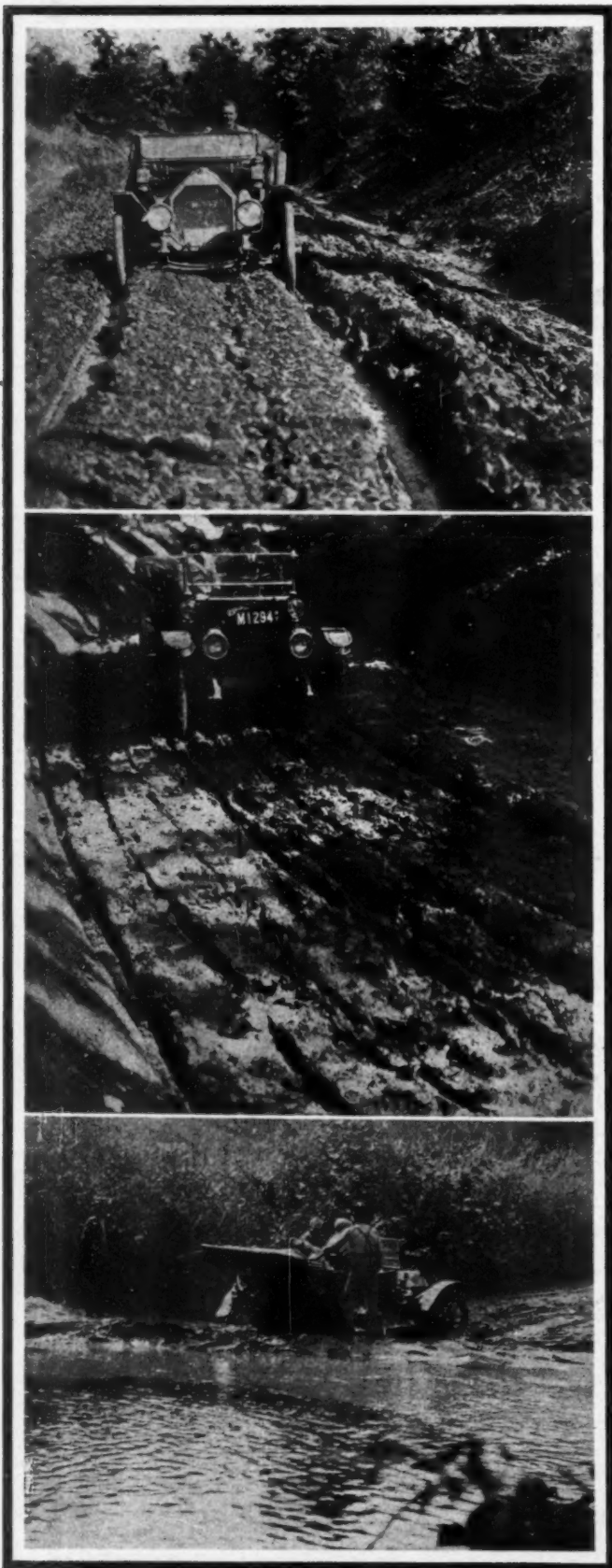


5—Waiting on the hill for their turn to rush the diagonal ford

7—The cars that were stuck came out finally under two-mule power

6—Vellie press car caught when only a few feet from the shore

8—After getting on the far bank the mule tractor came in handy



In the above pictures are given a few evidences of the manner in which some sections of the South look after their roads. In the top illustration Krit No. 70 is seen negotiating a particularly bad stretch. There were miles and miles of roads no better than that shown in the middle picture. The conditions outlined in the lower illustration are to be attributed to the excessive rains, the sheet of water shown being merely an undrained road hollow. How it impeded the cars is evident from the picture.

All around the horizon the peaks of the Blue Ridge loomed into the purple night and the breath of the trees supplied the inspiration for the marvelous run that followed into Winston-Salem. Sixty miles to the South lay the North Carolina city that was designated as night control and few of the tourists had ever been over the road in daytime, to say nothing of night.

The majority of the cars had from 2 to 3 hours left on their running schedule when they reached Martinsville and it was certain that scores would be decimated. But among the caravan were many drivers who would not say die and of these there are still a few with perfect scores.

It was a fierce drive over rough dark roads for full 20 miles and then the pike grew better and better until the spellbound passengers realized that they were whirling along at better than 30 miles an hour with grinning death just beyond the radiators. There were a few minor accidents but nothing of much moment, and to the astonishment of many a portion of the Glidden caravan finally reached control. There is a saying that the Lord is good to Glidden tourists and the members of the present run are willing to subscribe to that sentiment.

Despite the lateness of the hour, the whole city of Winston-Salem was out to welcome the travelers. Two bands played industriously and inside official headquarters at the Hotel Zinzendorf a galaxy of feminine beauty was gathered to personally welcome each new arrival. The drivers and in fact many of the passengers were treated as if they were heroes returning from a winning battle. At midnight Governor Smith made an address in which he voiced his well-known sentiment: "To Hades with the tariff; give us good country schools and good roads."

Some idea of the hardships encountered by the tourists to-day may be had from the statement that Governor Mann, who evidently knew what was ahead, side-stepped the tour through his State. If he had been within earshot of some of the tourists at the end of the day he would have in all probability registered a vow to get busy on good roads work at once. It is doubtful if the spectacle of 80 automobiles being dragged through muddy streams with the aid of Virginia mules will have a beneficial effect upon automobilists who contemplate traveling southward in the near future. Even the rickety old foot-bridge that was swung across Back Creek, where the cars were compelled to cross a diagonal ford, was in sympathy with the occasion, for while a crowd of automobilists were strung across it watching the passage of the cars through the turbid yellow waters, the flimsy structure emitted several warning cracks, and there was a lively stampede for either shore, according to which was nearer. Two men went through the rotten wood, but were grabbed by those nearest them and hauled up onto the bridge again. The passage of the ford by the 80 cars occupied at least five hours, and after getting through the contestants were compelled to negotiate 50 miles of as poor roads as can be found in these United States.

Nos. 6, 8, 17, 20, 42, 50 and 53 did not report at night control before midnight. Among the penalizations were: No. 7, 18 points; No. 10, 12; No. 14, 152 (making total of 1,133); No. 15, 130; No. 16, 57; No. 18, 10 (making total of 970); No. 21, 23; No. 26, 81; No. 31, 249; No. 33, 13 (making total of 100); No. 35, 228; No. 37, 3; No. 41, 33 (making total of 54); No. 46, 42 (making total of 46); No. 56, 153; No. 58, 34 (making total of 43); No. 59, 60 (making total of 65); No. 60, 81 (making total of 85); No. 63, 104; No. 64, 104; No. 66, 9 (making total of 19); No. 71, 117 (making total of 412).

Maxwells Assume Lead

CHARLOTTE, N. C., Oct. 19.—The trip from Winston-Salem to Charlotte, N. C., proved to be the most pleasant so far from a weather point of view. The start from the busy manufacturing center of Winston-Salem was most auspicious and it was seen by at least 1,000 college and school-girls who lined the sidewalks to witness the performance. The roads generally proved to be excellent as far as High Point, which by the way

is a manufacturing center for furniture rivalling Grand Rapids. But when the Davidson County line was reached there was a different road story to tell. Davidson County is located in a rich cotton growing belt and is quite a distributing and collecting point for that staple, but its roads are neglected. Most of the penalizations that accrued to-day resulted from the bad condition of the highway near Lexington. North of Salisbury where the road passes out of Davidson county there is a startling change for the better, and from Salisbury to Charlotte the roads are fair to good, with some short stretches that rival anything in New York state.

The contest narrowed down sharply after Winston-Salem and the Maxwell factory team showed out in front with a clear lead in the race for the Glidden Trophy. All the cars, Nos. 1, 2 and 3, have clean scores, the team being the only one left in that category. Next in order comes the Stevens-Duryea team, consisting of cars 11, 39 and 66. The latter is demerited 19 points and the other two are clean. The Jacksonville Cadillac team is third with 23 demerits. This team consists of numbers 32, 40 and 47. The Oldsmobile team is fourth and the Ford team fifth. The others are so far out of it that they are not considered to have a chance.

The Metz team was heavily penalized for the run into Winston-Salem, one car breaking a wheel and suffering other injuries so severe as to necessitate its withdrawal. Both of the other members were late getting in and the team is out of the running. E-M-F 42 has withdrawn as the result of another broken axle. This car was equipped with a new kind of solid tires that did not lend themselves to touring over mountain roads. The only difficulty experienced by the car was due to the jolting of the solid tires.

The route of the tour carries the column through a series of receptions that are hearty and hospitable to a degree. At Charlotte open house was held at the Manufacturers' Club and at Salisbury the civic organizations did everything possible to make the noon stop pleasant.

To-day the town boosters were scattered all along the route, and each contingent seemed to be exerting itself to outdo the others in pressing gifts upon the travelers. Pipes and tobacco were furnished by one Winston-Salem firm. Other firms gave soap and vanity mirrors—these latter for the ladies only, of course—buttons, badges, flags, illustrated booklets, and other articles designed to extol the merits of their several towns. Many of the villages through which the tour passed had welcoming banners stretched across the roadway, each inscribed with hearty greeting. To-day's experience was a welcome one after the hardships encountered on yesterday's mud plug.

Nos. 16 and 72 had not reported at midnight. Penalties inflicted to-day included: No. 10, 14; No. 14, 1,000 (out); No. 15, 24 (making total of 154); No. 19, 21; No. 33, 62; No. 37, 11 (making total of 14); No. 53, 21 (making total of 612); No. 59, 58 (making total of 123); No. 60, 26 (making total of 111); No. 70, 45.

Seventh Day Uneventful

ANDERSON, S. C., Oct. 20.—The seventh day of the tour ended in the center of the cotton belt of the southeast. It is said that the territory tributary to Anderson raises a bale per capita for its population and that the giant mills use something over 30,000 bales more than the territory produces. The run was uneventful and the scenery did not possess the wild charm of the Virginia mountains, but the roads were excellent nearly all the way.

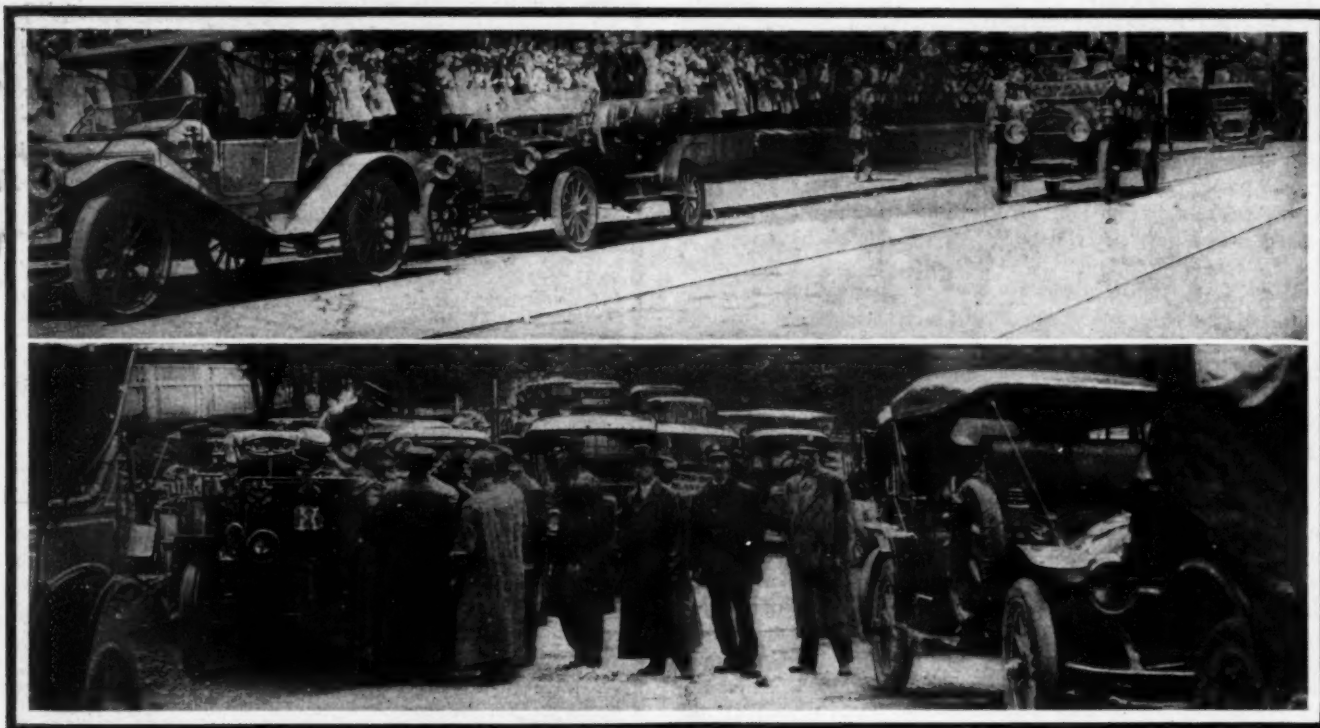
Like nearly all the towns used for night controls so far, the hotel accommodations for such a large party were inadequate. They were all right as far as they went, but did not extend any noticeable distance.

The Maxwell team maintained its lead and neither of the two teams nearest the front received any demerits. The Oldsmobile team, however, fell back a little and is now behind the Fords.

South Carolina furnished a pleasant surprise to the tourists



The above illustrations will give some indication of the hardships encountered by the contestants on the Glidden tour. In the upper picture is shown the Flanders No. 63 stuck in a 12-foot sandy rut, necessitating hard work on the part of the whole crew in order to extricate it. Rain persisted for nearly a week and every depression in the road formed a miniature lake. Nearing Atlanta the tourists encountered some excellent roads which were kept in shape by gangs of convicts.



Crowds of school children welcomed the Gliddenites on their arrival at Roanoke
The fire department at Natural Bridge, Va., is the proud possessor of a motor hose wagon, which came out to welcome the travelers

in the matter of roads. They had been led to expect that this state was far behind North Carolina in that respect. But the run of 160 miles from Charlotte to this place was over the finest dirt and macadam roads that have yet been encountered below Mason & Dixon's line. A couple of spills were the only features of the day's run. These were due to the speeding proclivities of a couple of Atlantans, who were evidently so tickled at getting on good roads once more that they could not help whooping things up a little. Anderson will never get far on its ability to take care of transient travelers, the accommodations here being so meager that in not a few instances a half dozen men were compelled to bunk together in one crowded compartment, which contained little or no facilities for removing the stains of travel.

At midnight to-night Nos. 15 and 16 had failed to report. Among the penalized cars were: No. 7, which accumulated 9 demerits; No. 60, 39, and No. 71, 8.

From Atlanta to Cordele

CORDELE, GA., Oct. 24—The run to-day from Atlanta was over astonishingly good roads that have been built within the past year to a very large extent. For most of the distance of 167 miles the cars traveled over highways that seemed almost like boulevards when compared with the fairly good roads of the latter part of last week. Georgia is evidently alive to the value of good roads, and has accomplished a vast amount of work along these lines since the vogue of the automobile in the South.

When the cars reached Macon, 100 miles south of Atlanta by the national highway route, which was scheduled for the noon stop, the town was in holiday dress, and the streets were lined with thousands of citizens cheering the tourists as they entered the city.

One section of road encountered to-day attracted no end of favorable comment. Leaving Macon the tourists encountered 15 miles of broad macadam road leading across low, swampy ground, that under ordinary conditions, before the road was built, would have tested the cars to their utmost. This stretch of road is broad enough for four cars traveling abreast.

Case car No. 71, which reported so late at Atlanta Saturday night that it failed to get on the official report blanks and was ruled out unofficially, was back in the run to-day and received the only penalization imposed. It was nine minutes late getting into Macon.

Pierce-Arrow No. 64, owned by E. Rivers, of Atlanta, was withdrawn by its owner who contracted a heavy cold



Where the cars were parked overnight at Staunton, Va.

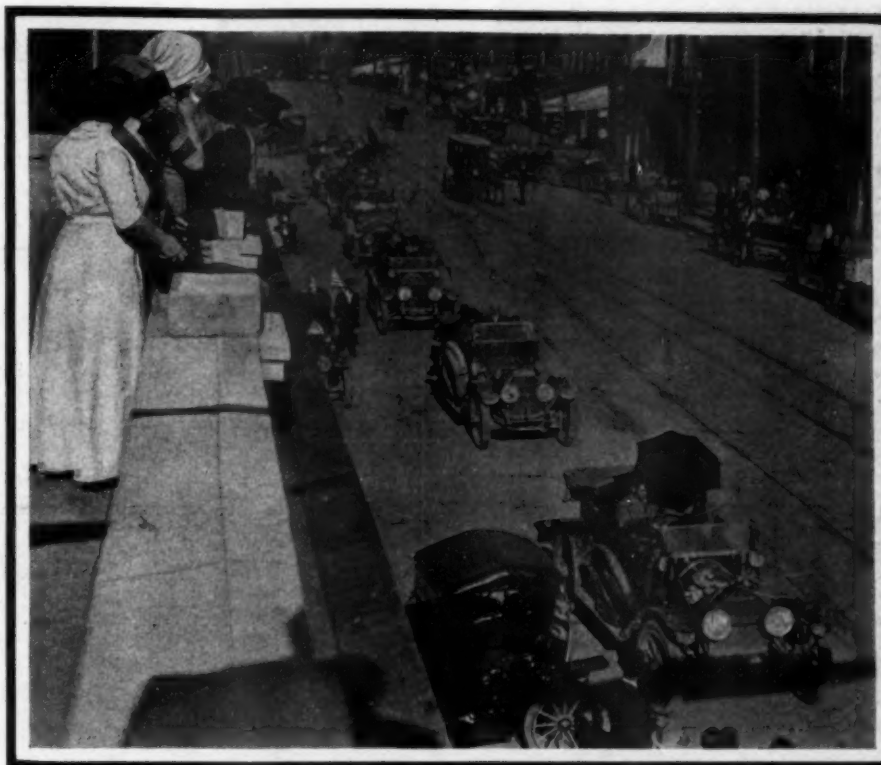
during the rains of last week and on the advice of his physician abandoned the run.

White gasoline car No. 46, owned by Julian Howard of Jacksonville, failed to arrive here at midnight. Report has it that it is ditched somewhere near Barnesville, Ga., with a broken axle. Those in charge of the car have wired that they will be able to effect repairs in time to join the tour to-morrow.

What looked like an ugly accident occurred just before Macon was reached when Cadillac car No. 47 went over a railroad right-of-way into a 6-foot ditch. It was pulled out by a non-contestant and made the noon control all right.

Considering its size, Griffin, Ga., accorded the tour one of the heartiest receptions given it along the route. Such was the opinion of the tourists, at least; but their minds were disabused later on when they discovered that the uproar in the streets of the small town was due to the fact that a wandering circus had pitched its tents there for the day and thousands of people from the surrounding country had poured into the town to witness the parade preceding the performance. It is quite possible that the Griffinites were unaware of the passage of the Gliddenites till their arrival. During the afternoon the travelers were greatly entertained by witnessing the operation of manufacturing turpentine at one of the roadside camps.

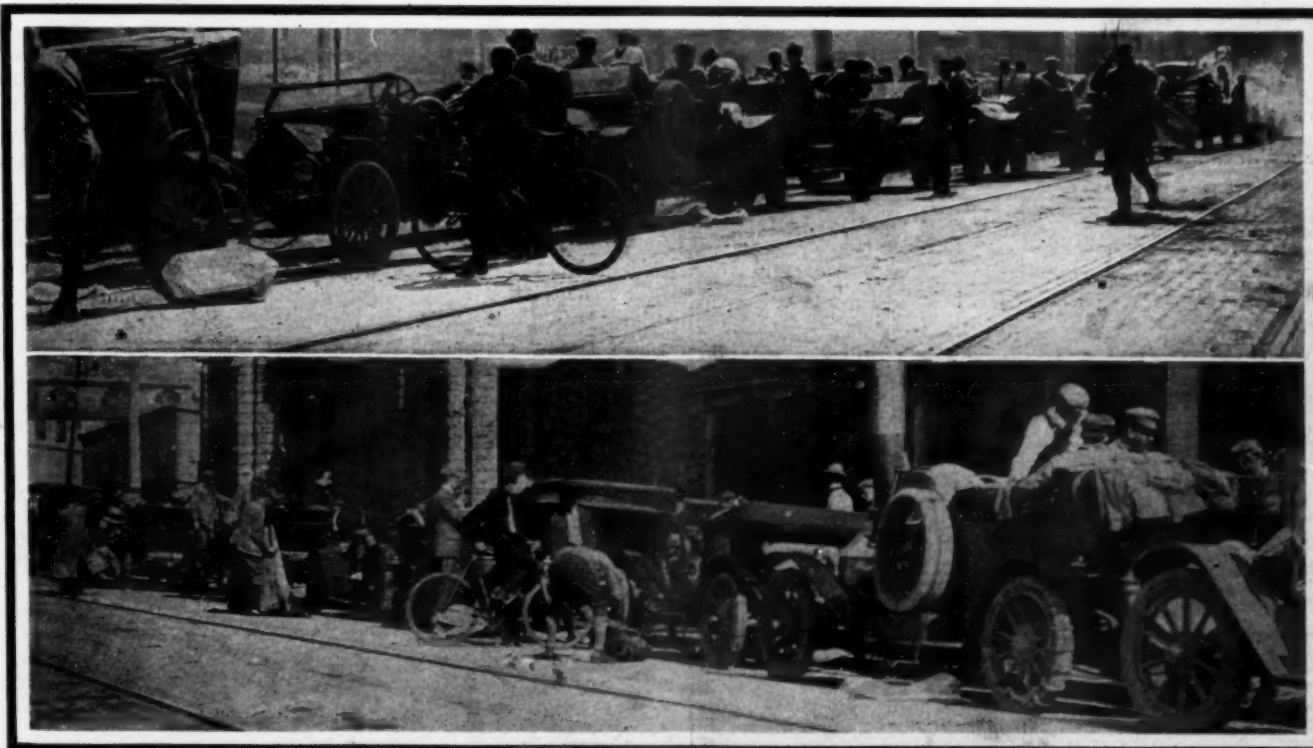
One of the contestants in the tour, Capt. W. J. Hillman, of Live Oak, Fla., who is engaged in the turpentine business, gave an impromptu lecture on the various processes that proved decidedly interesting.



Checking in at the noon control at Salisbury, S. C.

This city to-night is ablaze with electric lights specially strung to celebrate the honor accorded Cordele by placing it on the itinerary as an over-night stop. All the leading clubs supplied the tourists with visitors' cards and placed their club houses at the disposal of the visitors.

All told, the participants of the tour feel perfectly content in respect of the welcome they have hitherto met all along their route.



Line-up for the start from Roanoke, Va., on the morning of the fifty day
Just before the start from Winston-Salem, N. C., on the morning of the sixth day



Line-up for the medium and heavy car events in the recent Santa Monica races, showing grand stand and timer's pavilion

Fast Time Marked Los Angeles Meet

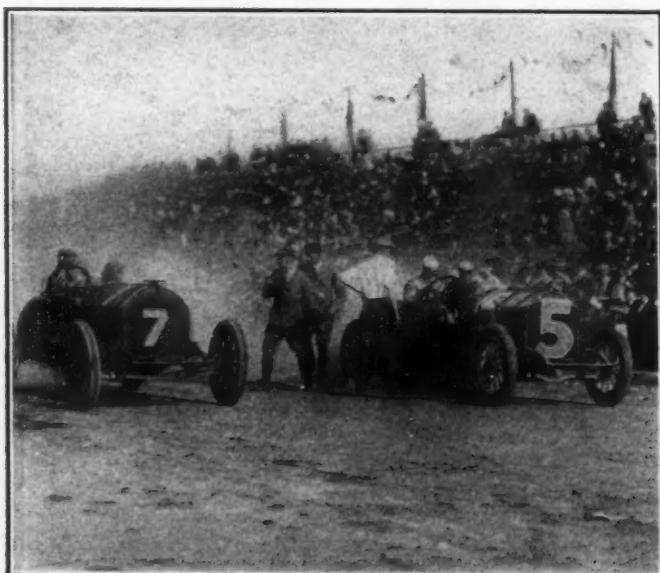
LOS ANGELES, CAL., Oct. 22—The usual fast time marked the two-day speedway motordrome meet. Five thousand people saw Saturday's sport and 10,000 crowded the piepan to-day. The feature Sunday was the match race between Tetzlaff in a Fiat and Lee Oldfield in a second Fiat. Tetzlaff

won two straight 2-mile heats in 1:18.57, and 1:17.9. These cars also hooked up in the two 5-mile free-for-all events. Tetzlaff won the first in 3:19.25. Oldfield was 4 seconds behind. The Inter-State, with H. Endicott driving, took third. In the second free-for-all Oldfield beat Tetzlaff in 3:20.33. Dingley in the Pope was third.

The 5-mile race for cars under 600 cubic inches piston displacement was easy for Bert Dingley. The Schacht also had an easy time winning the 10-mile 231-300 class, and the 25-mile race for the same class. Tetzlaff and Dingley fought out the free-for-alls Saturday. Both 5-mile races were fights, the Pope finishing a close second each time. Hanshue in the Mercer was an easy winner in the 10 and 25-mile races for his class. Dingley won the handicap, Saturday, and was beaten by Endicott in the Inter-State Sunday. Endicott had 13 seconds in 5 miles. Summaries:

SATURDAY'S EVENTS

5 Miles, 161 to 230 Class			
Pos.	Car	Driver	Time
1	Regal	Anthony	4:25 1-5
2	Maxwell	Smith	
3	Reo	Endicott	
10 Miles, 231 to 300 Class			
1	Mercer	Hanshue	7:45 1-5
2	Schacht	Jeffkins	
3	Cole	Carlson	
1-Mile Time Trial			
1	National	Herrick	:44 3-5
5-Mile Free-for-All			
1	Fiat	Tetzlaff	3:25 3-5
2	Pope-Hartford	Dingley	
3	Stutz	Lewis	



Start of the 301 to 450 class in the recent Santa Monica races

25 Miles, 231 to 300 Class			
Pos.	Car	Driver	Time
1	Mercer	Hanshue	20:59 1-5
2	Cole	Carlson	
3	Regal	Anthony	

5 Miles, Handicap, Free-for-All			
1	Pope-Hartford	Dingley	3:58 1-5
2	Regal	Anthony	
3	Reo	Endicott	

5 Miles, Free-for-All			
1	Fiat	Tetzlaff	3:33 1-5
2	Pope-Hartford	Dingley	
3	Inter-State	Endicott	

SUNDAY'S EVENTS

5 Miles, Under 600 Cubic Inches			
1	Pope-Hartford	Dingley	3:40.2
2	Inter-State	Endicott	
3	Stutz	Lewis	

10 Miles, 231 to 300 Class			
1	Schacht	Shain	7:55
2	Cole	Carlson	
3	Regal	Anthony	

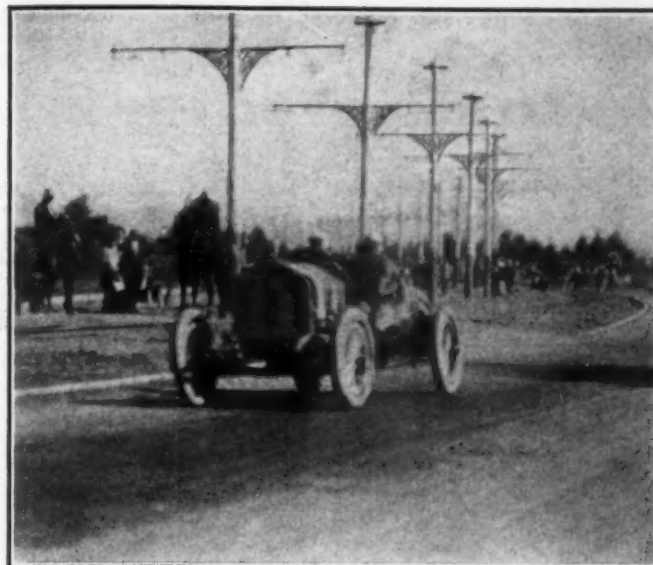
10 Miles, 161 to 230 Class			
1	Maxwell	Smith	8:42.41
2	Regal	Anthony	
3	Reo	Endicott	

5 Miles, Free-for-All			
1	Fiat	Tetzlaff	3:19.35
2	Fiat	Oldfield	
3	Inter-State	Endicott	

25 Miles, 231 to 300 Class			
1	Schacht	Shain	19:49.57
2	Cole	Carlson	
3	Regal	Anthony	

5 Miles, Free-for-All			
1	Fiat	Oldfield	3:20.33
2	Fiat	Tetzlaff	
3	Pope-Hartford	Dingley	

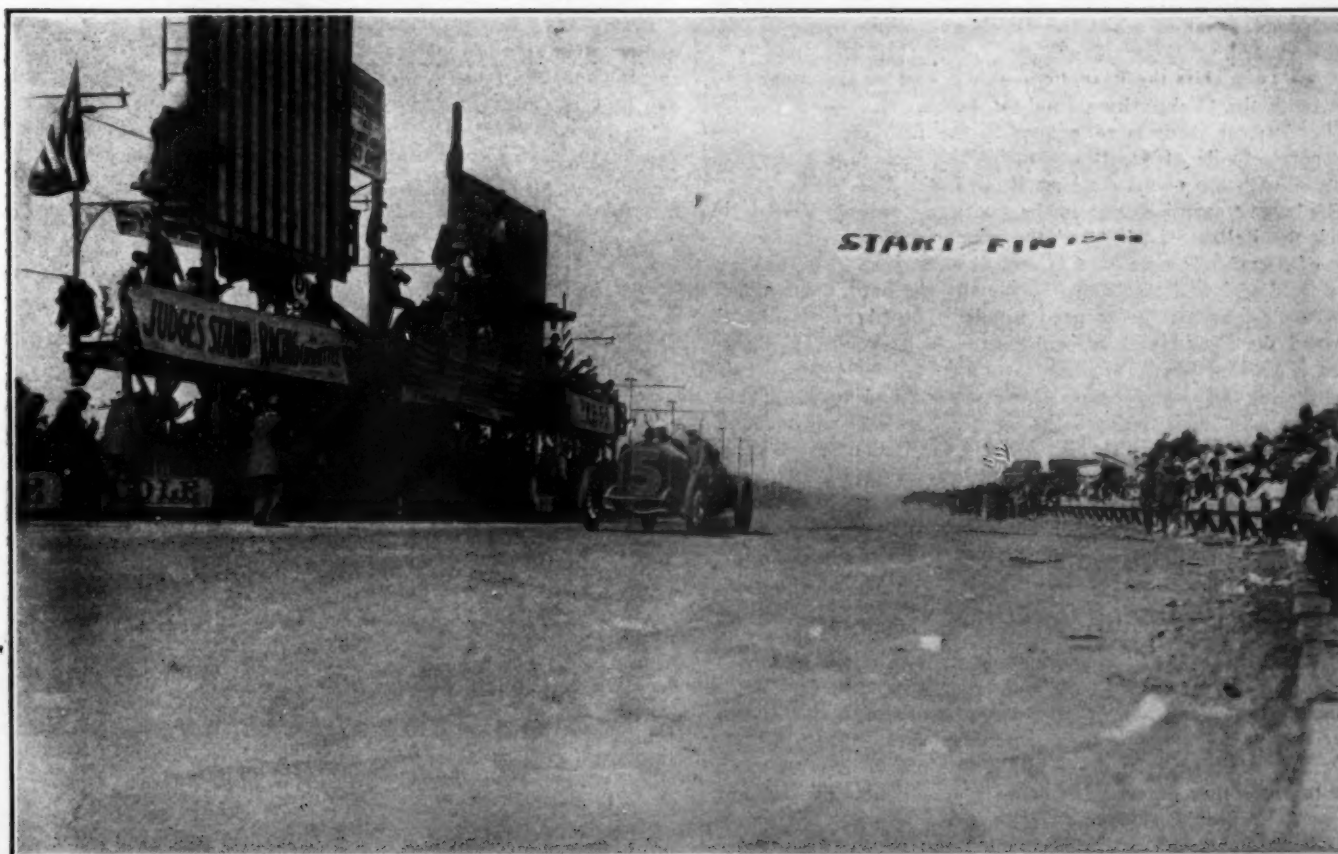
5 Miles, Handicap			
1	Inter-State	Endicott	4:02.98
2	Pope-Hartford	Dingley	
3	Regal	Anthony	



Herrick in a National beating world's record in Santa Monica race

Sealed Handicap at Long Island Club

The Long Island Automobile Club's first contest for the Schimpf Trophy will be held on Saturday, October 28, 1911, starting from the Club House, 920 Union street, at 1 p. m. At the suggestion of the Board of Governors, the first contest will be an easy one, practically a club run, with the award a matter of chance. The restriction in regard to the amateur status of drivers has been eliminated from the deed of gift and any member of the Club in good standing, who drives his own car, is eligible. There will be no restriction as to passengers to be carried by the cars.



Merz in the National at the finish of the 301 to 450 class race at Santa Monica, winning first place and averaging 74.42 miles an hour

REVISED OFFICIAL RECORD OF TRUCKS IN SAN FRANCISCO'S RECENT TWO-DAY TEST

No. of Entrant	Name of Truck	Class	Running Schedule, Miles Per Hour	Price of Truck	Load Carried, Pounds	Gasoline Used, Gallons	Cost at 14 1/2¢ Per Gallon	Lubricating Oil, Pints Used	Cost at 40¢ Per Gallon	Drivers' Wages, Two Days	Depreciation 12% Per 300 Days	Total Cost	Total Cost, Per Mile	Total Cost, Per Ton-Mile	Total of Road and Final Technical Examination Penalties	Total Cost Per Ton-Mile, Including Penalties at 1-10¢ Per Penalty	Hrs. Actual Running Time, Min. Covering Course of Sec. 133 Miles
7	Brush (winner)...	1 K	14	\$450	500	5 3/4	\$0.83 1/2	5	\$0.25	\$4.00	\$0.36	\$5.44 1/2	\$0.0409	\$0.1636	89	\$0.1660	7:41:20
26	Indian	1 K	14	450	250	3 3/4	.52 9/16	11	.05	4.00	.36	4.93 9/16	.0371	.2968	None	.2968	7:16:17
24	Reo (winner)...	3 K	12	875	1,500	12	1.74	11	.55	5.00	.70	7.99	.0600	.0800	86	.0809	8:56:21
8	Buick	3 K	12	1150	1,500	15	2.17 1/2	10	.50	5.00	.92	8.59 1/2	.0646	.0861	None	.0861	8:11:53
1	White	3 K	12	2400	1,500	10 1/2	1.48 3/4	5 1/2	.27 1/2	5.00	1.92	8.68 3/4	.0652	.0869	None	.0869	6:18: 5
6	Franklin (winner)...	4 K	12	2620	2,000	16	2.32	3 1/3	.16 2/3	6.00	6.00	10.57 2/3	.0795	.0795	4	.0795	6:53:24
20	Grabowsky	4 K	12	2430	2,000	16	2.32	11	.55	6.00	1.92	10.79	.0811	.0811	20	.0812	8:34:59
22	Autocar (winner)...	5 K	10	2400	3,000	13	1.88 1/2	6 1/2	.32 1/2	6.00	1.97	10.13	.0761	.0507	None	.0507	7:59:16
4	White	5 K	10	3350	3,000	11	1.59 1/2	9	.45	6.00	2.68	10.75 1/2	.0806	.0537	None	.0537	6:11: 5
3	Federal	5 K	10	2250	2,000	19 1/2	2.77 5/16	3	.15	6.00	1.80	10.72 5/16	.0806	.0806	550	.0847	7:28:11
11	Reliance (winner)...	8 K	6	3750	7,000	23 1/2	4.83 3/4	16	.80	8.00	3.00	16.65 3/4	.1252	.0357	14	.0358	11: 7:40
28	Packard	8 K	6	3850	6,000	21 3/4	3.15 3/4	10 1/2	.52 1/2	8.00	3.08	14.75 3/4	.1109	.0369	None	.0369	11: 4:33
9	White	8 K	6	4050	6,000	22	3.19	11 1/2	.57 1/2	8.00	2.88	17.05 9/16	.1282	.0427	90	.0429	10:22:19
21	Kelly	8 K	6	3500	6,000	29	4.20 1/2	10	.50	8.00	3.80	15.50 1/2	.1165	.0388	6	.0388	10: 5:59
13	Gramm	8 K	6	3890	6,000	28	4.06	16	.80	8.00	3.11	15.97	.1200	.0400	None	.0400	8:52:33
18	Pope-Hartford	8 K	6	3600	6,000	38 1/2	5.60 1/16	11 1/2	.57 1/2	8.00	2.88	17.05 9/16	.1282	.0427	96	.0429	10:22:19
25	Universal	8 K	Withdrawn														
19	White (winner)...	9 K	6	4530	10,000	18 3/4	2.17 3/4	10	.50	8.00	3.60	14.81 1/2	.1114	.02228	None	.02228	11:57: 9
23	White	9 K	6	4500	10,000	23 1/2	3.40 3/4	6	.30	8.00	3.60	15.30 3/4	.1150	.0230	None	.0230	11:41: 5
17	Pierce Arrow	9 K	6	4750	10,000	24 1/2	3.55 1/4	3 7/10	.18 1/2	8.00	3.80	15.53 1/4	.1168	.02336	None	.02336	9:58:36
14	Speedwell	9 K	6	3650	8,000	22	3.19	7	.35	8.00	2.92	14.46	.1087	.0271	None	.0271	9:43:38
10	Lewis	9 K	6	3850	8,000	30 1/2	4.44 1/16	6	.30	8.00	3.08	15.82 1/16	.1189	.0297	50	.0298	10:25: 2

*Awarded grand prize as winner of entire contest, its cost per ton mile being the lowest.

Revised Figures Show New Winners in Frisco

SAN FRANCISCO, Oct. 15—Several errors having been found in the official records of last week's two-day motor truck contest in this city, a new and revised statement has just been issued by Walter C. Manuel, the official A. A. A. referee. With the tangle straightened out the position of several trucks in the contest is changed.

In the 1,500-pound division the Reo is declared the winner on its economy record of \$.0809 per ton-mile, with the Buick second at \$.0861 and the White third at \$.0869. The Reo suffered 86 points road penalties while the Buick and White were perfect in this regard.

In the 1-ton class the Franklin won at a cost of \$.0795 per ton-mile, with the Grabowsky second, at \$.0812.

The Autocar is declared winner in the fifth division with a cost per ton-mile of \$.0507 and the White second at \$.0537. A Federal, with 550 points road penalties, is third at \$.0847.

The biggest surprise came in the 5,001- to 7,000-pound class, in which the Reliance is declared the winner with a cost per ton-mile of \$.0358. The Packard is second at \$.0369. The White is third at \$.0376 and the Kelly (originally declared the winner) now comes fourth at \$.0388 per ton-mile. The Gramm is fifth at \$.04 and the Pope-Hartford, which suffered 90 points road penalties, is sixth at \$.0429.

In the big division for cars between 7,001 and 10,000 pounds the White No. 19 is declared the winner. Its cost per ton-mile was \$.0228, a record which also secured for it the Grand Prize.

The White No. 23 was second at \$.0230; the Pierce-Arrow third at \$.02336 and the Speedwell fourth at \$.0271. The Lewis, a California made truck, which suffered 50 points road penalties came in fifth at \$.0298 per ton-mile. The table follows.

Racer Sues for Prize Money

OAKLAND, CAL., Oct. 15—Almost every automobile dealer in Oakland has been joined in the suit brought by Earl de Vore, a racing driver, who wants prize money that failed to materialize after the race was won and the shouting over.

De Vore claims he was urged by the Oakland Dealers' Association to enter the contest. He drove a Pope-Hartford and won his race. When he claimed the \$200 prize, however, no money was forthcoming. Now, besides suing the association, he has entered claim against every one of the dealers who are members of the organization.

Fatal Accident Mars Races at Sioux City

SIoux CITY, IA., Oct. 23—"Billy" Pearce, the well-known driver, was killed when his Colby car dashed through the fence, on a trial run on the Sioux City track, the day before the races. Thursday afternoon Pearce was trying out the track, and made the first mile in 1:01. He was increasing his speed, and it is said that he attempted to make a "hairpin" turn, on the first curve from the grandstand, running close to the outside fence, and turning square. The car swerved and dashed through the inside fence. The machine was not badly injured.

Pearce had made fast time on this track the year before, and among other trophies, his Fal car captured the G. & J. trophy at the Indianapolis races in 1909. At the Omaha races two weeks ago he carried off practically all the honors with his Colby car.

On account of Pearce's death, one race, a ten-mile race for cars of Class B-3 B, was called off. Summary:

25-Mile Race, for Stock Cars			
Pos.	Car	Driver	Time
1	Buick	John Sparling	25:27
2	Paige-Detroit	J. W. Shrunk	
3	Chalmers	H. A. Wetmore	
4	Moon	Philip Wells	
5	Reo	Walter Gnehm	
6	Ford	Jim Ralston	

Australian Pursuit Race for Class D Cars
Won by Buick, driven by Sparling; the Moon, Wells, second.

10-Mile Event for Class C-2 C			
Pos.	Car	Driver	Time
1	Paige	Shrunk	10:12
2	Reo	Gnehm	
3	Ford	Ralston	
4	Chalmers	Wetmore	

10 Miles for Class B-4 B Stock Cars			
Pos.	Car	Driver	Time
1	Buick	Sparling	10:42
2	Jackson	Harry Woodruff	
3	Cutting	Delaney	

The 50-mile race was the big event the second day. The Buick led for some distance, but was stopped by officials to change tires. The Paige then led but was also compelled to stop. Summary:

50-Mile Free-for-All			
Pos.	Car	Driver	Time
1	Chalmers	Wetmore	55:57
2	Abbott-Detroit	Marvel	
3	Buick	Sparling	
4	Paige	Shrunk	

Class C-2 C, 10 Miles			
Pos.	Car	Driver	Time
1	Paige	Shrunk	11:04
2	Chalmers	Wetmore	
	Ford	Ralston	

Class C-4 C, 10 Miles			
Pos.	Car	Driver	Time
1	Buick	Sparling	10:17
2	Jackson	Young	
3	Moon	Wells	

How New York Will Regulate Garages

Text of Proposed Ordinance Which Is Under Discussion

CHAPTER XXI

DEFINITION—By the term garage is meant a building, shed or enclosure, or any portion thereof, in which a motor vehicle is kept, housed or stored.

Sec. 1. It shall be unlawful for any person to store, house or keep within the City of New York any motor vehicle containing volatile inflammable oil except in a building, shed or enclosure for which a garage permit has been issued by the Fire Commissioner.

Sec. 2. An application for a garage permit shall give in detail the following information:

- (a) Name of applicant.
- (b) Location of premises.
- (c) Nature of construction of building.
- (d) Description and maximum number of motor vehicles to be stored therein.
- (e) Maximum quantity of volatile inflammable oils to be stored or kept at one time.
- (f) Maximum quantity of calcium carbide to be stored or kept therein at one time.

Sec. 3. When an application is made for a garage permit wherein more than one motor vehicle is to be stored, housed or kept, or where volatile inflammable oil is to be stored or kept, the application must be accompanied with a detailed plan of the premises, drawn to a scale of not less than one-fourth of an inch to the foot.

Sec. 4. No garage permit to store more than one motor vehicle, or for the storage of any volatile inflammable oil, shall be issued for any building:

- (a) Which is situated within fifty feet of the nearest wall of any building occupied as a school, theater, or other place of public amusement or assembly.
- (b) Which is occupied wholly or in part as a tenement house, hotel, workshop or factory.
- (c) Which is a frame or wooden building.
- (d) Which is not lighted solely by electricity.
- (e) Where drugs, cigars, cigarettes or tobaccos are kept for sale.
- (f) Where paints, varnishes or lacquers are manufactured, stored or kept.

(g) Where dry goods of any kind or other materials of a highly combustible nature are manufactured, stored or kept.

(h) Where matches, rosin, turpentine, hemp, cotton, guncotton, smokeless powder, blasting powder, or any other explosives are stored or kept.

Sec. 5. The application and plan mentioned in sections 2 and 3 of this chapter shall be referred to the Municipal Explosives Commission; and upon the recommendation of said Commission the Fire Commissioner may issue a permit.

Sec. 6. A permit may be issued for a garage on premises on which there is a dwelling occupied by the applicant or by his employee, provided that the entrance to the living apartments shall not be through the garage; and provided further that not more than three motor vehicles may be kept or stored in such garage, and that none of them shall be let out for hire.

Sec. 7. A permit may be issued for a garage in a building occupied as a dwelling by either the applicant and one other tenant or by the applicant's employee and one other tenant, provided that not more than two floors or stories above said garage shall be occupied or used as living apartments, such floors being separated from the garage by unpierced fireproof walls and floors; and provided further that not more than four motor vehicles may be stored in such garage and that none of them shall be let out for hire.

Sec. 8. No volatile inflammable oil except that contained in the motor vehicles may be stored in any garage for which a permit has been issued under sections 6 and 7 of this chapter, unless the building in which such garage is situated is of fireproof construction throughout.

Sec. 9. All garages wherein volatile inflammable oils are stored shall be continuously under the care and supervision of one or more persons each holding a certificate of fitness as a superintendent or manager of a garage. The number of persons required to hold certificates of fitness in each case shall be determined by the Fire Commissioner and shall be stated in the permit.

Sec. 10. No garage permit authorizing the storage of volatile inflammable oils shall be issued for any premises which are not equipped with an oil separator, trap or other contrivance attached to the house drain for the purpose of preventing volatile inflammable oils from flowing into the sewer.

Sec. 11. No garage permit authorizing the storage of volatile inflammable oils shall be issued for any premises which are not equipped with a tank or tanks of sufficient capacity for the storage of such oils except as otherwise provided in this chapter.

Sec. 12. No garage permit authorizing the storage of volatile inflammable oils shall be issued for any premises which are not equipped with one or more portable tanks for the transfer of such oils from the storage tank to the motor vehicles. The number of such portable tanks shall in each case be determined by the Fire Commissioner and stated in the permit.

Sec. 13. No garage permit authorizing the storage of volatile inflammable oils shall be issued for any premises which are not equipped with a pump or other apparatus for drawing off such oils from the storage tank.

Sec. 14. No storage tank, portable tank, oil separator, pump or other apparatus shall be installed in a garage unless a certificate of approval for the same shall have been issued by the Fire Commissioner.

Sec. 15. Applications for certificates of approval for any of the articles

The new garage law adopted by New York City tersely defines the status of the garage and limits quantity of inflammable oils and other chemicals that may be stored. Permits issued for special garage locations. Fire Commissioner's certificate necessary for storage tanks. Minute details on gasoline handling. Repair shops to be regulated. Storage and sale of kerosene oil arranged for. Signs prohibiting smoking must be displayed.

mentioned in the preceding section shall be made to the Fire Commissioner, and shall have attached thereto complete working drawings for such articles.

Sec. 16. Each storage tank shall be constructed of steel at least one-quarter of an inch in thickness; shall have a capacity of not more than two hundred and seventy-five gallons, and shall, under test, stand a hydrostatic pressure of at least two hundred and fifty pounds to the square inch.

Sec. 17. Each storage tank shall be coated on the outside with tar or other rust-resisting material, and shall be embedded in and surrounded by at least twenty-four inches of clean sharp sand, well stamped into place.

Sec. 18. Each storage tank shall be so set that the top or highest point thereof shall be at least four feet below the level of the lowest cellar floor of any building within a radius of twenty-five feet from the tank.

Sec. 19. No storage tank shall be placed under the sidewalk or under the front area of any garage.

equipped with a filling pipe, a drawing-off pipe and a vent pipe; provided, however, that no storage tank installed in a garage as a part of an hydraulic storage system shall be required to have a vent pipe. All pipes shall be of galvanized wrought iron and shall have malleable iron fittings. All screw joints must be made with litharge and glycerine.

Sec. 21. The filling pipe must be at least two inches in diameter, and shall be laid at a descending grade from the sidewalks in front of the garage to the tank.

Sec. 22. The intake of the filling pipe shall be located in a heavy cast-iron box, which shall be sunk flush with the sidewalk at the curb level and fitted with a heavy metal cover which shall be kept locked when the filling pipe is not in use.

Sec. 23. The filling pipe shall be closed at the intake by a cock or valve fitted with a coupling for attaching to the hose of a barrel wagon, and with a screw cap to close the opening when not in use.

Sec. 24. Each filling pipe shall be provided with a screen made of two thicknesses of 20-mesh brass wire gauze, placed not more than two inches below the filling cock or valve.

Sec. 25. The vent pipe shall be at least one inch in diameter, and shall run from the tank to the outer air at least ten feet above the roof of any building within a radius of twenty-five feet from the garage, and at least twenty feet from any window in adjoining buildings, and shall be well braced in position.

Sec. 26. The vent pipe shall be capped with a double goose-neck and provided with two screens made of two thicknesses of 20-mesh brass wire gauze and placed, one at or near the tank connection, and the other just below the goose-neck.

Sec. 27. The drawing-off pipe shall be not more than two and one-half inches in diameter in its largest dimension and shall be fitted with as many outlets as may be required, but not to exceed one for each floor of the garage.

Sec. 28. Each drawing-off pipe shall be encased in and surrounded by either six inches of Portland cement concrete or eight inches of brick masonry throughout its entire length.

Sec. 29. Each outlet for a drawing-off pipe shall be located in a separate compartment built upon suitable foundations having no opening except into the garage, and having walls, floors and roof constructed of Portland cement concrete at least six inches thick, or of brick masonry at least eight inches thick, the brick to be laid in and surrounded by Portland cement mortar. Each compartment shall be fitted with a self-closing iron door which shall always be kept locked except when oil is being drawn.

Sec. 30. No compartment wherein there is an outlet for drawing off volatile inflammable oil shall be situated in the area between the building and the sidewalk, or under the sidewalk, or within the stoop line; nor shall such compartment have a greater floor area than twenty-five square feet for one outlet and fifteen square feet for each additional outlet.

Sec. 31. The floor of each compartment wherein an outlet for drawing off volatile inflammable oils is located shall be graded to a common center and connected with a drainage pipe running into the oil separator.

Sec. 32. Each pump for delivering volatile inflammable oils shall be located in the compartment provided for in section 29 of this chapter, and shall be equipped with a shut-off valve with ground key on nozzle and with a check valve between the pump and the nozzle.

Sec. 33. Each compartment wherein an outlet for the drawing off of volatile inflammable oils is located shall be equipped with a ventilating flue, constructed of brick or concrete lined with tile pipe at least eight inches square inside measurement, and extending from the floor of the compartment at a point opposite the door to at least six feet above the highest point of the roof of the garage or any adjoining building within a radius of twenty-five feet of the garage.

Sec. 34. Each ventilating flue shall have an opening into the compartment 4 by 6 inches in area and three inches above the floor.

Sec. 35. Each flue shall be capped with a double goose-neck eight inches square, made of at least 18-gauge galvanized iron, with all openings covered with 20-mesh brass wire screens.

Sec. 36. The provisions of sections 29, 30, 31, 32, 33, 34 and 35 of this chapter shall not be held to apply to garages located in buildings that are of fireproof construction throughout. In such buildings no separate drawing-off compartment shall be required.

Sec. 37. It shall be unlawful for any person to deliver volatile inflammable oils from a storage tank to a motor vehicle by means of a

portable tank or directly through the outlet of the drawing-off pipe.

Sec. 38. Each portable tank shall be of a capacity not exceeding fifty gallons, and mounted on a suitable iron frame with rubber-tired wheels. The volatile inflammable oil contained in the tank shall be discharged only by means of a pump through a hose not exceeding eight feet in length having a shut-off valve close to its outlet.

Sec. 39. No pump or outlet for the delivery of volatile inflammable oils in a garage shall be allowed on any floor below the street level; and it shall be unlawful for any person to deliver a volatile inflammable oil to the tank of any motor vehicle while on the floor of a garage below the street level.

Sec. 40. Each portable tank used in a garage shall bear a number corresponding to the floor of the garage on which it is used; and it shall be unlawful for any person to remove a portable tank containing volatile inflammable oil from one floor to another floor in a garage.

Sec. 41. Each wagon delivering volatile inflammable oils to a garage shall be equipped with a metallic hose having an automatic shut-off valve at the coupling next to the barrel containing such oils.

Sec. 42. No barrel containing volatile inflammable oil shall be taken off the wagon, but the oil shall be delivered directly to the storage tank of the garage through the filling pipe by means of a hose coupled to the barrel containing the oil and connected to the intake provided for in section 22 of this chapter.

Sec. 43. No wagon or other vehicle engaged in the delivery of volatile inflammable oils shall be admitted to or taken within a garage, or any portion thereof.

Sec. 44. It shall be unlawful for any person to deliver to or receive within a garage any volatile inflammable oil in barrels or other receptacles, or to keep or store in a garage any barrel or other receptacle from which volatile inflammable oil has been drawn.

Sec. 45. Each oil separator installed in a garage shall be connected to the house drain and so arranged so as to separate all oils from the drainage of the garage. The drainage from water closets in garages shall not be emptied into the separator, but shall be discharged directly into the sewer.

Sec. 46. It shall be unlawful for any person to throw or discharge any volatile inflammable oil into the urinals or water closets of a garage.

Sec. 47. The oil receptacle of an oil separator shall not exceed fifty gallons in capacity, and shall be emptied as often as may be necessary to prevent the oil from overflowing; and such oils as are recovered from the separator must be removed from the garage within twenty-four hours after being taken from the separator.

Sec. 48. All volatile inflammable oils spilled in a garage must be recovered by sponging or swabbing, and poured into the drain leading to the oil separator.

Sec. 49. A garage shall not be artificially lighted except by electric lights having air-tight tubes or bulbs or globes encased in suitable wire cages, fitted with keyless sockets. All electric switches and plugs shall be placed at least four feet above the garage floor.

Sec. 50. No system of artificial lighting other than incandescent electric lights shall be installed in any garage unless a certificate of approval for such system shall have been issued by the Fire Commissioner.

Sec. 51. No stove, forge, torch, boiler, furnace, flame or fire; electric dynamo, motor hoist or other electric appliance which is likely to produce an exposed spark, shall be allowed in any garage or in any building wherein a garage is situated, unless that portion of such building is separated from the garage by unpierced fireproof walls and floors.

Sec. 52. No motor vehicle shall be stored or kept in a garage unless the tank of such motor vehicle is equipped with a safety or fusible plug for which a certificate of approval has been issued by the Fire Commissioner.

Sec. 53. All fires and lights in or upon a motor vehicle shall be extinguished before bringing it into a garage, and shall not be lighted while the motor vehicle remains in the garage.

Sec. 54. It shall be unlawful for any person to smoke or carry a lighted cigar, cigarette or pipe within a garage or any room or enclosed place in which volatile inflammable oil is kept. A notice bearing in large letters the words "SMOKING UNLAWFUL," together with a copy of this section in smaller letters, shall be displayed in one or more conspicuous places on each floor of a garage.

Sec. 55. It shall be unlawful for any person to use or handle volatile inflammable oils within a garage for any purpose other than that of filling the tank of a motor vehicle.

Sec. 56. Each garage shall be permanently equipped with fire buckets filled with sand and kept on each floor, for use in extinguishing fires. A quantity of sand shall also be kept upon each floor of a garage for absorbing waste oils. The quantity of sand and the number of buckets for each garage shall be designated by the Fire Commissioner and stated in the permit.

Sec. 57. Each floor of a garage shall be equipped with self-closing metal cans, and all inflammable waste material shall be kept therein.

Sec. 58. All calcium carbide stored in a garage shall be kept in water-tight metal containers with securely fastened covers, but the aggregate quantity kept on hand at any one time shall not exceed fifty pounds.

Sec. 59. A person who violates any of the provisions of this chapter is guilty of a misdemeanor.

Sec. 60. (Sec. 25, Chap. III). For a garage permit issued under sections 5 and 6 of Chapter XXI of these regulations, the applicant shall pay an annual fee of Five Dollars for each motor vehicle stored therein.

Sec. 61. (Sec. 26, Chap. III). For a garage permit allowing the storage of volatile inflammable oils, the applicant shall file a bond in a penal sum to be fixed by the Fire Commissioner, but in no case shall the amount thereof be less than Five Thousand Dollars, and shall pay an annual fee of Fifty Dollars for a single storage tank and Twenty-five Dollars for each additional storage tank installed in such garage.

CHAPTER XXII

MOTOR VEHICLE REPAIR SHOPS

Definition—By the term motor vehicle repair shop is meant, a building, shed or enclosure, or any portion thereof, wherein motor vehicles are repaired for hire or by hired employees.

Sec. 1. Except as provided in the following section, it shall be unlawful for any person to keep or maintain a motor vehicle repair shop within the City of New York without a permit from the Fire Commissioner.

Sec. 2. A person holding a permit issued in conformity with the provisions of chapter XXI of these regulations shall not be required to obtain a permit under this chapter.

Sec. 3. Applications for permits to maintain motor vehicle repair shops shall give in detail the following information:

- Name of applicant.
- Location of premises where the repair shop is to be maintained.
- Nature of construction of building.

Sec. 4. It shall be unlawful for any person to store or keep in a motor vehicle repair shop any volatile inflammable oil or calcium carbide.

Sec. 5. It shall be unlawful for any person to introduce or receive into a motor vehicle repair shop any motor vehicle containing a volatile inflammable oil, unless the building or that portion of the building occupied as such repair shop is of fireproof construction throughout.

Sec. 6. A person who violates any of the provisions of this chapter is guilty of a misdemeanor.

Sec. 7. (Sec. 28, Chap. III). For a permit allowing the operation of a Motor Vehicle Repair Shop, the applicant shall pay an annual fee of Twenty-five Dollars.

CHAPTER XXIII

MANUFACTURE, TRANSPORTATION, STORAGE AND SALE OF PETROLEUM, AND OTHER MINERAL OILS

Sec. 1. Except as otherwise provided in these regulations, it shall be unlawful for any person to manufacture, refine, transport, store, sell or deliver, any petroleum, or the liquid products thereof or of coal tar or shale oil, without a permit from the Fire Commissioner.

Sec. 2. Applications for permits to manufacture, refine or distill petroleum, coal tar or shale oil, within the City of New York, shall give in detail the following information:

- Name and office address of the applicant.
- Location of plant.
- Manner and place of storing raw material.
- Manner and place of storing finished product.
- Nature of finished product.
- Maximum capacity of the plant in daily output.
- Name of each person designated by the applicant to have charge or supervision of the whole or a part of the plant.
- Operation necessary for the manufacture of the finished product.

Sec. 3. In connection with the application mentioned in the preceding section, the applicant shall file a plan, in duplicate, drawn to a scale of not less than one-sixteenth of an inch to the foot, showing clearly thereon the following information:

- Location of plant.
- Nature of construction and dimensions of each building, storage tank and supply pipe in the plant enclosure.
- Purpose for which each building is used.
- Description and maximum quantity of material to be stored in each storage tank or building.
- Maximum quantity of oil passing through each supply pipe per hour.
- Location of each building with reference to nearest buildings outside the enclosure on all sides.

Sec. 4. The provisions of sections 2 and 3 of this chapter shall apply only to plants for the manufacture, refining and distilling of petroleum now existing in the City of New York, and no permit shall hereafter be issued for the erection or operation of any new plant of a similar character.

Sec. 5. It shall be unlawful for any person to transport, deliver or receive within the City of New York any volatile inflammable oil in a receptacle other than a galvanized steel barrel equipped with a safety or fusible plug for which a certificate of approval has been issued by the Fire Commissioner.

Sec. 6. The provisions of the preceding section shall not apply to the transportation of volatile inflammable oils when contained in glass bottles of not more than four ounces capacity each and plainly marked on the outside "DANGEROUS: Keep from Flame"; nor shall the provisions of said section apply to the transportation of such oils in cans of a capacity not less than one nor more than five gallons, for delivery only to persons holding permits for the storage and sale at retail of such oils.

Sec. 7. It shall be unlawful for any person to sell or deliver within the City of New York any volatile inflammable oil in quantities greater than one gallon unless the purchaser or receiver thereof holds a permit issued by the Fire Commissioner in conformity with these regulations for the storage, sale or use of such oils.

Sec. 8. Each vendor of volatile inflammable oils shall render to the Fire Commissioner on the first business day of each month a written statement, verified as to its correctness by an affidavit, describing the deliveries of volatile inflammable oils in quantities greater than one gallon made within the City of New York during the preceding month. Such statements shall be made upon forms furnished by the Fire Commissioner, and shall give in detail the following information:

- Date of delivery.
- Name of purchaser and number of his permit.
- Place of delivery.
- Quantity and kind of oil delivered.

Sec. 9. All cans used for the delivery of volatile inflammable oils shall be equipped with a metal seal so arranged that there shall be no outlet for the oil unless the seal is broken.

Sec. 10. No barrel, can, drum or package shall be used for the delivery of volatile inflammable oil unless a certificate of approval therefor has been issued by the Fire Commissioner.

Sec. 11. Petroleum and all liquid products thereof and of coal tar and shale oil, except volatile inflammable oils, may be transported within the City of New York in the following containers:

- In tank cars or through supply pipes.
- In steel, iron or wooden barrels, of a capacity not exceeding fifty-five gallons each.
- In cans of a capacity not exceeding ten gallons each, made of galvanized iron or at least No. 24 B. & S. or I. C. charcoal tin orterne plate, and packed in substantial wooden cases.
- In cans, drums or packages not exceeding ten gallons capacity each, made of at least No. 25 B. W. G. tin orterne plate.

Sec. 12. It shall be unlawful for any person to carry or transport within the City of New York any petroleum or the liquid products thereof or of coal tar or shale oil, in a tank wagon unless a certificate of approval has been issued therefor by the Fire Commissioner.

Sec. 13. The tank of a wagon used for the transportation of petroleum or the liquid products thereof or of coal tar or shale oil, shall be constructed of iron or steel not less than one-eighth of an inch in thickness for the top plates and three-sixteenths of an inch in thickness for the bottom plates, and equipped with faucets which shall be kept locked when not in use. The capacity of a tank wagon shall not exceed thirty barrels of fifty-five gallons each.

Sec. 14. All tank wagons shall have painted on both sides thereof, in conspicuous letters not less than two inches high, the name of the person, corporation or association operating the same, and the number of the certificate of approval.

Sec. 15. It shall be unlawful for any person to drive or have charge of a tank wagon in transit within the City of New York without having obtained a certificate of fitness from the Fire Commissioner.

Sec. 16. It shall be unlawful for any person to transport or carry in or upon a wagon or other vehicle, except a tank wagon, any petroleum or the liquid product thereof or of coal tar or shale oil, in quantities aggregating more than twenty-five barrels of fifty-five gallons each.

Sec. 17. Permits for the storage of a petroleum or the liquid products thereof or of coal tar or shale oil may be issued by the Fire Commissioner upon written application giving in detail the following information:

- (a) Name and office address of the applicant.
- (b) Location of plant.
- (c) Nature and maximum quantity of oil to be stored.
- (d) Name of each person designated by the applicant to have charge or supervision of the plant, and the number of his certificate of fitness.

Sec. 18. In connection with the application mentioned in the preceding section the applicant shall file a plan, in duplicate, drawn to a scale of not less than one-sixteenth of an inch to the foot, showing clearly thereon the following information:

- (a) Location of plant.
- (b) Nature of construction and capacity of each tank and building and the location thereof with reference to the nearest buildings not forming part of the plant.

Sec. 19. It shall be unlawful for any person to store or keep in a storage plant within the City of New York any petroleum or the liquid product thereof, or of coal tar or shale oil, in quantities in excess of the following:

- (a) Volatile inflammable oils: fifty steel barrels of fifty-five gallons each.
- (b) Other oils that do not emit in inflammable vapor below 100 degrees Fahrenheit; if in barrels, three hundred barrels of fifty-five gallons each; if in cans, a quantity not exceeding one thousand gallons; if in storage tanks, a quantity not exceeding fifty thousand gallons.

Sec. 20. Except as provided in the following section, all storage tanks shall be embedded in soft earth so that the tops thereof shall be at least two feet below the street level.

Sec. 21. For the purpose of facilitating the filling of tank wagons, there may be installed in a storage plant not more than four tanks, elevated on brick piers, and having an aggregate capacity of not more than five thousand five hundred gallons, for the storage of oils that do not emit an inflammable vapor below 100 degrees Fahrenheit. Such oils must be returned to the storage tanks underground each day at sunset.

Sec. 22. It shall be unlawful for any person to connect any part of a storage plant with a sewer, or to allow any of the liquid products of petroleum to escape into any sewer within the City of New York.

Sec. 23. It shall be unlawful for any person to keep or maintain a plant for the storage of petroleum, or any of the liquid products thereof or of coal tar or shale oil, unless such plant is continuously in charge of a person holding a certificate of fitness issued by the Fire Commissioner.

Sec. 24. No permit shall be issued for the storage of petroleum or any of the liquid products thereof, or of coal tar or shale oil, in any building which is occupied wholly or in part as a tenement house or dwelling, or in any building having more than one floor below the street level; nor for the storage of any such oils upon any floor of any building above the ground floor.

Sec. 25. Whenever the physical conditions along the shore front in the City of New York are such as to make it impracticable to place underground a storage tank for the storage of volatile inflammable oils to be delivered to launches and other vessels for generating motive power, the Fire Commissioner may, upon the recommendation of the Municipal Explosives Commission, issue a permit for a tank not to exceed two thousand five hundred gallons capacity, to be placed and maintained in such manner and under such conditions as the Municipal Explosives Commission shall prescribe, which conditions shall be clearly stated in the permit.

Sec. 26. For the purpose of filling the tanks of launches and other vessels using a volatile inflammable oil for generating motive power, such oils shall be transferred to the tank of such vessels directly by a pipe from a storage tank, and not otherwise.

Sec. 27. It shall be unlawful for any person to smoke or to carry a lighted cigar, cigarette or pipe within a storage plant where petroleum, or any of the liquid products thereof or of coal tar or shale oil, is stored or kept; and a sign bearing, in large letters, the words "SMOKING UNLAWFUL," together with a copy of this section in smaller letters, shall be posted in one or more conspicuous places in such plant.

Sec. 28. A person who violates any of the provisions of this chapter is guilty of a misdemeanor.

Sec. 29. (Sec. 31, Chap. III.) For a permit allowing the storage of petroleum, or any of the liquid products thereof, and of coal tar and shale oil, in a storage plant as provided for in section 17 of chapter XXIII of these regulations, the applicant shall pay an annual fee of One Hundred Dollars.

CHAPTER XXIV

STORAGE AND SALE AT RETAIL OF VOLATILE INFLAMMABLE OILS

Definition—By the term volatile inflammable oils is meant, any oil or liquid that will generate an inflammable vapor at a temperature below 100 degrees Fahrenheit when tested either in the open air or in the closed pyrometer of Giuseppe Tagliabue.

Sec. 1. Permits for the storage and sale at retail of volatile inflammable oils may be issued by the Fire Commissioner upon written application giving in detail the following information:

- (a) Name and office address of the applicant.
- (b) Location of the premises in which the oils are to be stored.
- (c) Nature of construction of the building.
- (d) Purpose for which the building is used.

(e) Nature of the business in which the applicant is engaged in such building.

Sec. 2. No permit shall be issued for the storage or sale of volatile inflammable oils within the City of New York in any building:

- (a) Which is occupied wholly or in part as a tenement house, dwelling, school or place of public assembly or amusement.
- (b) Where any explosives are stored or kept for sale.
- (c) Where dry goods of any kind are manufactured, stored or kept for sale.

(d) Which is lighted by any artificial means other than electricity.

Sec. 3. No volatile inflammable oil shall be stored in a building for which a permit has been issued in accordance with the provisions of this chapter in quantities aggregating more than fifty gallons.

Sec. 4. It shall be unlawful for any person to store, keep, sell or deliver any volatile inflammable oil except in original packages with the seal unbroken, or to open any such package within the premises covered by the permit, or to sell or deliver any volatile inflammable oil in a quantity less than one gallon.

Sec. 5. It shall be unlawful for any person to smoke or to carry a lighted cigar, cigarette or pipe within any premises covered by a permit issued in accordance with the provisions of this chapter; and a sign bearing, in large letters, the words "SMOKING UNLAWFUL," together with a copy of this section, in smaller letters, shall be posted in one or more conspicuous places in such premises.

Sec. 6. The floor of each store or premises covered by a permit issued in accordance with the provisions of this chapter, shall at all times be kept clean and free from all accumulation of waste paper and other inflammable material, and shall be provided with self-closing metal cans for keeping sawdust or cotton waste used for cleaning purposes, and also with a number of buckets filled with sand for use in extinguishing fires; the number of buckets to be so kept shall be determined by the Fire Commissioner and shall be stated in the permit.

Sec. 7. A person who violates any of the provisions of this chapter is guilty of a misdemeanor.

Sec. 8. (Sec. 34, Chap. III.) For a permit allowing the storage and sale at retail of volatile inflammable oils, as provided for in chapter XXIV of these regulations, the applicant shall pay an annual fee of Ten Dollars.

CHAPTER XXV

STORAGE AND SALE AT RETAIL OF KEROSENE OIL

Definition—By the term kerosene or kerosene oil is meant, any liquid product of petroleum commonly used for illuminating purposes which does not emit an inflammable vapor below the temperature of 100 degrees Fahrenheit when tested either in the open air or in the closed pyrometer of Giuseppe Tagliabue.

Sec. 1. It shall be unlawful for any person to store, keep or sell within the City of New York any kerosene or other mineral oil to be used for lighting purposes in quantities greater than five gallons without a permit from the Fire Commissioner.

Sec. 2. Permits for the storage and sale of kerosene and other mineral oils used for lighting purposes may be issued by the Fire Commissioner upon application giving in detail the following information:

- (a) Name and address of the applicant;
- (b) Location of premises;
- (c) Character of construction of building;
- (d) Purpose for which the building is used and number of families residing therein, if any;
- (e) Nature of the business in which the applicant is engaged in such building.

Sec. 3. No permit shall be issued for the storage and sale of kerosene or other mineral oil used for lighting purposes in quantities greater than seventy gallons in any building occupied wholly or in part as a tenement house.

Sec. 4. No permit shall be issued for the storage or sale of kerosene or other mineral oil used for lighting purposes in any building in quantities greater than two hundred and seventy-five gallons.

Sec. 5. It shall be unlawful for any person to store or keep any kerosene or other mineral oil used for lighting purposes except in the original package, or in a tank, can or container for which a certificate of approval has been issued by the Fire Commissioner.

Sec. 6. Certificates of approval for cans, tanks and other containers for the storage of kerosene or other mineral oils used for lighting purposes may be issued by the Fire Commissioner upon the recommendation of the Municipal Explosives Commission.

Sec. 7. It shall be unlawful for any person to sell or offer for sale any kerosene or other mineral oil used for lighting purposes which will emit an inflammable vapor at a temperature lower than 100 degrees Fahrenheit, when tested either in the open air or in the closed pyrometer of Giuseppe Tagliabue.

Sec. 8. All kerosene barrels, cans and containers shall be removed from the premises immediately after being emptied.

Sec. 9. A person who violates any of the provisions of this chapter is guilty of a misdemeanor.

Sec. 10. (Sec. 35, Chap. III.) For a permit allowing the storage and sale of kerosene or other mineral oils to be used for lighting purposes, as provided for in chapter XXV of these regulations, the applicant shall pay an annual fee of Ten Dollars.

Preparing for Richmond's Good Roads Meeting

RICHMOND, VA., Oct. 23—Novel, indeed, are the suggestions made by the executive committee of the Richmond Automobile Club for decorated automobiles during the convention of the National Highway Association, the week of November 20.

It is proposed to make the auto parade historical, depicting the men who settled Jamestown, the red men who watched them, the men of the time of Bacon's Rebellion, Governor Berkeley, Patrick Henry, John Marshall and "Light Horse" Harry Lee. The idea would be to put these historic men in automobiles and take them over the road to Petersburg and let them see the scene of the battle of the Crater, and other historical points.

President Taft has given every assurance that he will be here to attend the big highway meeting.

Seventeen Entries in Chicago Run

CHICAGO, Oct. 23—Seventeen cars are entered in the fifth annual reliability run of the Chicago Motor Club, which starts Friday for a 1,300-mile trip through five States. In the touring car class there are entered two Molines, two Halladays, two Staver-Chicagos and one each of the Case, Lion, Abbott-Detroit and Oldsmobile. The roadster division includes two Molines, two Velies, and one each of the Oakland, Bergdoll and Grout. The itinerary of the tour calls for night stops at Indianapolis, Louisville, Cincinnati, Columbus, Detroit and Grand Rapids. Sunday will be spent in Louisville. In addition to the contestants there will be several official cars—a Halladay pilot, a Packard pace-maker, a National press car, a Midland checker's car and a Haynes technical committee car.

Four 1912 Overland Chassis Types

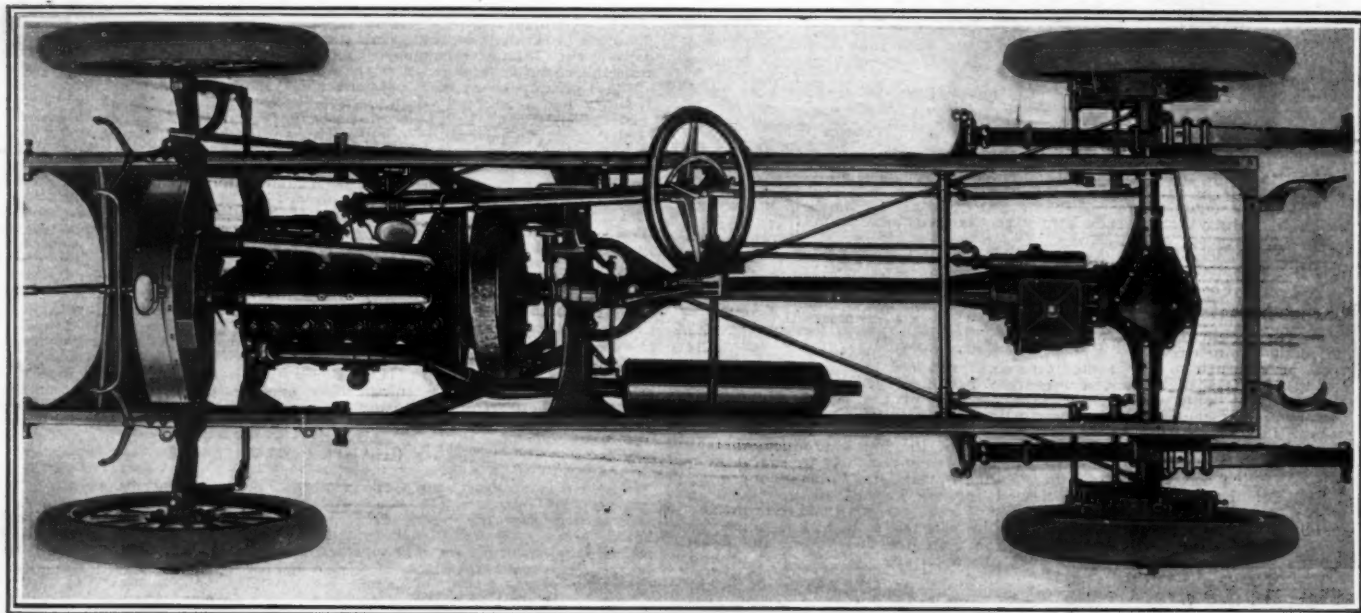


Fig. 1—Model 61 Overland chassis for 1912. The motor on this chassis, like all other Overland types, has cylinders cast separately and cooled by thermo-syphon circulation. The motor also has a circulating oiling system and the valve springs are enclosed and provided with packing to prevent the leakage of oil. This chassis has the new lever working in a single slot

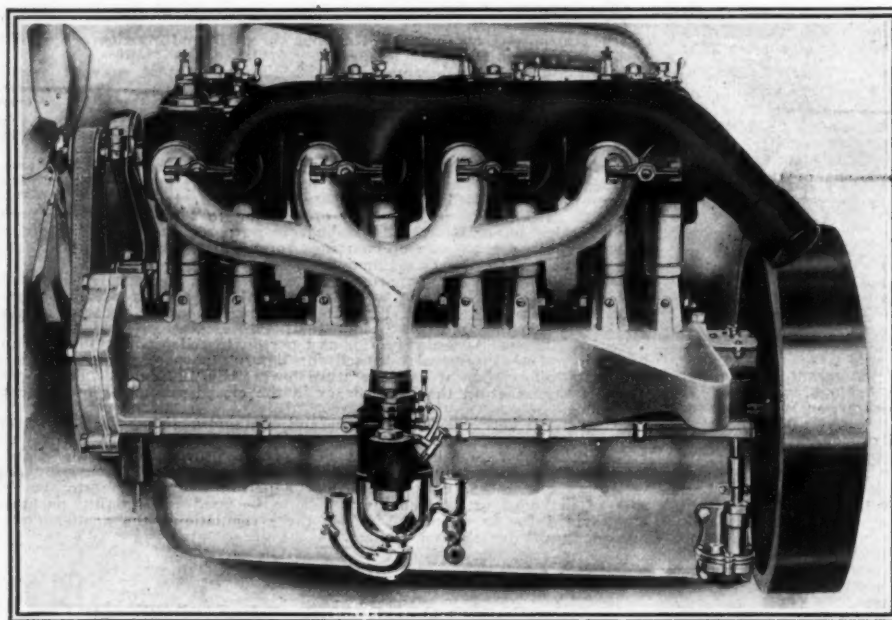


Fig. 2—This is the motor used in the Overland chassis Model 6. The increased size of the water manifold for the thermo-syphon water circulation can be seen in the return water pipe. The circulating oil pump for the motor lubrication is placed at the left rear of the crankcase. Valve stems and springs are enclosed and special provisions made to prevent leaking of oil at the upper ends of the valve lifter rods

FEW manufacturers offer a line of greater latitude for the buyer to select from than the Willys-Overland Company, which for the coming season lists four types of chassis with not fewer than nine body types, running from the two-passenger runabout to the palatial enclosed types of cars. In keeping with the modern tendencies in body design, all are fitted with enclosed or fore-door types with the control levers inside of the body. The four chassis types are not new Over-

land designs, but continuations of the 1911 types with those refinements that the engineering department has considered desirable. In a word, these refinements have been along the line of reducing noise, preventing the escape of lubricants from parts, improving the metals used and strengthening many of the car parts. The buyer familiar with Overland design this season will have no difficulty in recognizing any of the 1912 types because the Overland earmarks are all continued. The thermo-syphon circulation of the water in the cylinder jackets and radiator is continued, but a new design of radiator has been used. An adjustment is provided for the belt driving the cooling fan in the form of an eccentric bushing, and the flat-tube radiator is now made without a flare front as heretofore. The flat vertical tubes are fitted with horizontal cooling flanges that extend from side to side of the radiator, giving a square-cell front appearance. As formerly, the radiator is supported on the frame side members through trunnion supports, which relieve the radiator of any strains that are placed upon the frame and might be transferred to it.

The four Overland chassis types are built along the same general lines as shown in Figs. 1 and 4. The chassis is a two-unit type with one universal joint at the point of coupling of the two systems or units. The motor with the cone clutch constitutes the forward unit, and the torsion tube enclosing the propeller shaft, the rear axle and gearbox constitute the second or rear unit. On all models the gearbox is carried immediately in front of the differential housing, the gearbox casting not

being integral with any part of the differential casting, but bolted to a large circular flange on the forward face of what might be called the differential neck, which carries the short pinion shaft. The use of but two units with a single universal joint disposes of all possible alignment troubles between the motor and clutch, the clutch and gearset or the gearset and rear axle.

Before describing the motor it might be well to outline the complete list of nine body types with motor sizes, wheelbases and the tire sizes which are fitted to the car by the company. These are as follows:

Model	Body	Motor	Wheelbase	Tires
58-R	Roadster	3.75 by 4.5	96	32 by 3.5
59-R	Roadster	4 by 4.5	106	32 by 3.5
59-T	Touring	4 by 4.5	106	32 by 3.5
59-C	Coupe	4 by 4.5	106	32 by 3.5
60-T	Touring	4 1/4 by 4.5	114	32 by 4
61-T	Touring	4 3/4 by 4.5	118	34 by 4
61-F	Torpedo	4 3/4 by 4.5	118	34 by 4
61-R	Roadster	4 3/4 by 4.5	118	34 by 4
61-C	Coupe	4 3/4 by 4.5	118	34 by 4

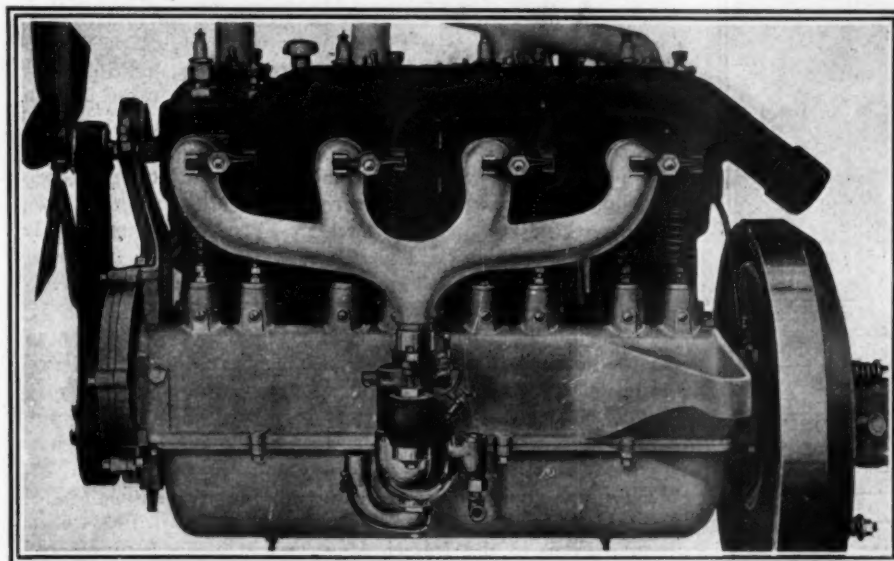


Fig. 3—This is the motor used in Overland, Model 59. It is fitted on the opposite side with a mechanical oiler to lubricate the motor parts. The system is a non-circulating one. The valve stems and springs are not enclosed

In this model nomenclature R stands for roadster, T for five-passenger touring car, F for four-passenger torpedo and C for coupe bodies. The baby of the line, 58-R, is made only as a two-passenger roadster; the 59 type carries three body styles, roadster, touring car and coupe; the 60-T is built only as a five-passenger touring car, and the 61 is turned out with roadster, touring car, torpedo and coupe bodies.

The Overland chassis has quite a few characteristics in addition to those already mentioned. The motor is a four-cylinder one, with cylinders cast separately and valves located on one side. Casting separately allows of using a five-bearing crankshaft, a type of shaft that is being largely used abroad and is being used more and more in America by builders who were casting their cylinders in pairs. The clutch is a conventional cone type, asbestos covered and with limited-action plungers beneath the facing. The gearset is a selective design on all but model 58, which is a two-speed planetary. The side members of the frame are not offset at the dash. On 58 and 59 the

side members are straight from end to end; on 60 they have a single drop in advance of the rear axle, and on 61 they have a double drop, this allowing of low tonneau doors and low body carriage.

All bodies have the steering column on the right-hand side, but the emergency-brake lever and change-speed lever are mounted in the center of the floor board and operated by the left hand. This is a neat location of them in a fore-door line of bodies and is used this season on one of the models. The leading body change is the use throughout of the fore door. This changes the entire car appearance. The upholstery is deep in the seat cushions. The hooded or cowl dash is almost universally used. Heavier wheels are fitted throughout. On models 58 and 59 1 1/2-inch spokes with twelve hub bolts are employed in front and rear; in 60 the spokes are 1 3/4-inch front and rear with twelve bolts, and on 61 the spokes are 1 3/4-inch with twelve hub bolts in front and eighteen in the rear.

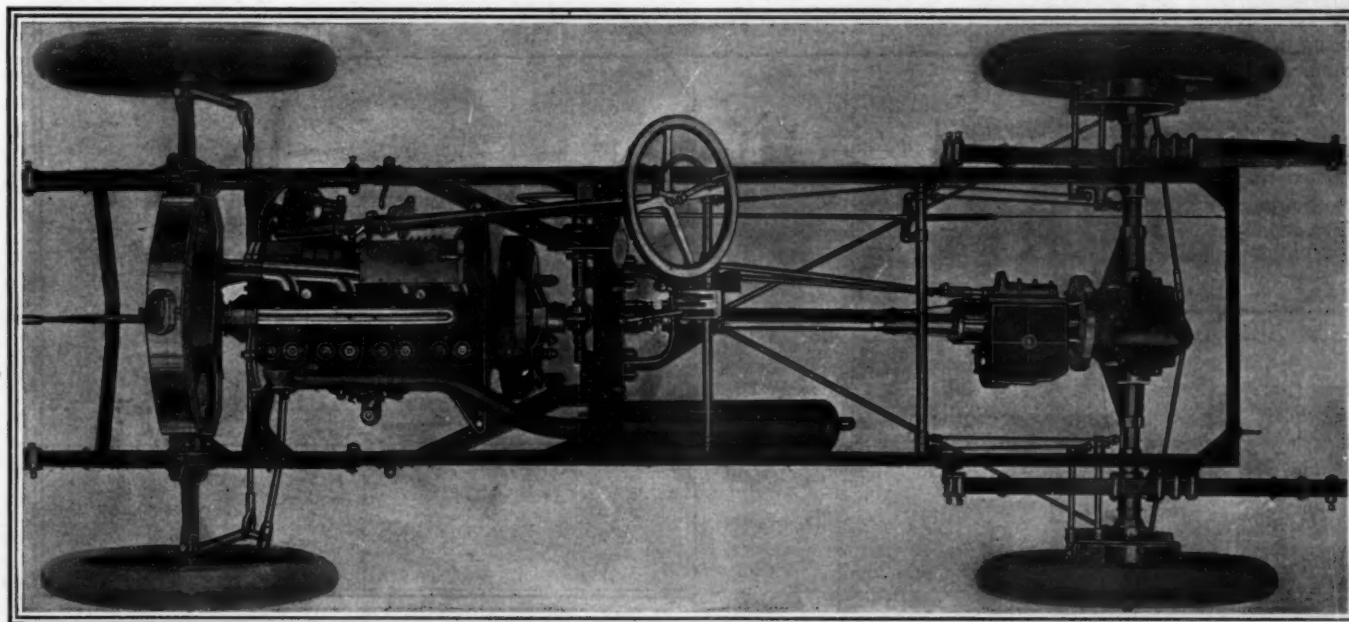


Fig. 4—This is the chassis on Overland Model 59, which uses the motor shown in Fig. 3. This motor has cylinders cast separately and cooled by thermo-siphon means. The new design of radiator is fitted on this chassis and is carried on trunnion supports. The gearset is a unit with the rear axle and but a single universal joint is made use of in this chassis. The propeller shaft is carried inside of the torsion tube

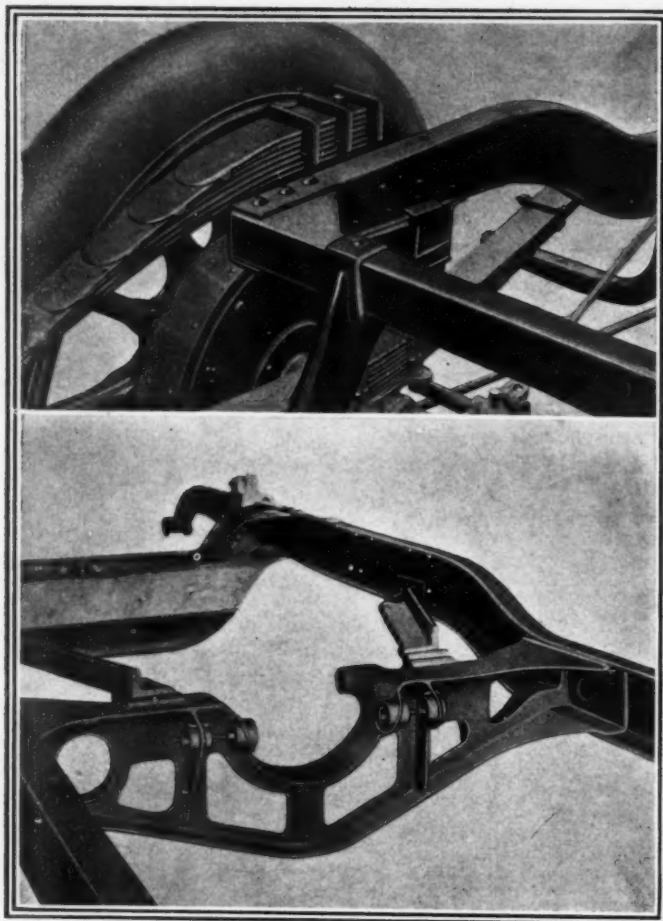


Fig. 5—Showing the attachment of rear springs on all Overland chassis for 1912 models

Fig. 6—The celebrated malleable iron cross member in the frames of all Overland cars

In the motor the thermo-syphon water piping has been increased in capacity from 25 to 75 per cent. in the different models. These pipes are aluminum castings. As in all thermo-syphon motors the radiator has to be well elevated above the cylinder heads. The aluminum crankcase is a two-part casting, the upper carrying the five crankshaft bearings, the lower constituting an oil reservoir and basin. In models 58 and 59 a mechanical oiler is used and consequently the lower part of the crankcase serves merely as a basin; whereas in 60 and 61 a circulating oiling system is used and the base of the case contains a sump or oil reservoir beneath the crankcase proper. In the circulating system the oil is delivered from the gear pump through a pipe to the middle of the crankcase, where it is poured against a divider of inverted V form cast on the inside of the case. The oil falling onto the apex of this divider is sent half to the front of the case and half to the rear. This supplies two splash levels and the oil splashed by the four connecting rods lubricates the crankshaft and camshaft bearings and also the cylinder walls, wrist pins and piston rings.

On models 58 and 59 the mechanical oiler is carried over the intake water pipe on the right side of the motor and has six leads, four to the cylinders, one to the rear crankcase compartment and one to the timing gear compartment at the front end of the motor.

A most important motor improvement on some of the models is the enclosing of the valve spring, Fig. 2, on the model 51. The cover for each valve spring is made up of semi-cylindrical parts held in place by two circular springs which surround them as clamps. A further improvement, one not shown in the illustration, is the method employed of preventing oil from leaking out by way of the valve stem. A real packing-box system is

used. The bottom of the valve-stem bushing, which sets into the cylinder casting, is formed with an annular recess and into this packing is fitted, a steel washer being used below the packing to retain it in position. The washer is in turn retained in place by a small spring similar to the valve spring, and located around the valve stem and inside of the valve spring. Provision is also made to prevent the valve-lifter rods from acting as plunger pumps and lifting oil which is splashed on their lower ends within the crankcase. The guide for the lifter is made with two vertical slots from top to bottom, in conjunction with an annular space at the top of the slots, so that the oil, which works up by the pumping action, flows off of the lifter into the slot and then flows down the slots into the crankcase, thus not only conserving the oil supply but aiding in keeping the motor clean—a potent factor in the modern car.

The Overland company has been a consistent exponent of the cone clutch, and continues its use. It is equipped with a clutch brake, which bears upon the cone face when disengaged to prevent its spinning, thus slowing it down and making gear shifting possible without grinding of the teeth of the meshing gears. Another clutch feature is the limited plunger action of the six radial plungers, which are regularly spaced around the cone periphery and bear outward beneath the asbestos facing. Each plunger stem is carried in a bracket attached to the cone. In the stem, near the clutch center, is a restricting pin, which, when the plunger presses outward 3-32 inch, bears against the bracket, stopping its movement. This prevents too quick engagement, or gripping when throwing the clutch in. The cone-clutch part is self-centering with the flywheel through the use of a three-arm spider, which bears upon a semi-spherical support, the semi-sphere allowing of the cone finding its own center.

The dual ignition system is used in all four chassis: On 58 and 59 the Splitorf outfit is employed; on 60 it is the Remy, and on 61 use is made of the Bosch. The carbureter is the new Schebler model L. The carbureter is carried very low, the top of it being on a level with the lower half of the crankcase. Gravity feed is used.

One of the Overland frame features is the use of a malleable-iron cross-member, Fig. 6. This takes the place of forty-seven original pieces in the frame. It serves, in a word, to support the clutch and brake-operating parts and on its rear face are two eye-holes to which the arms of the yoke on the front end of the torsion tube, containing the propeller shaft, are attached.

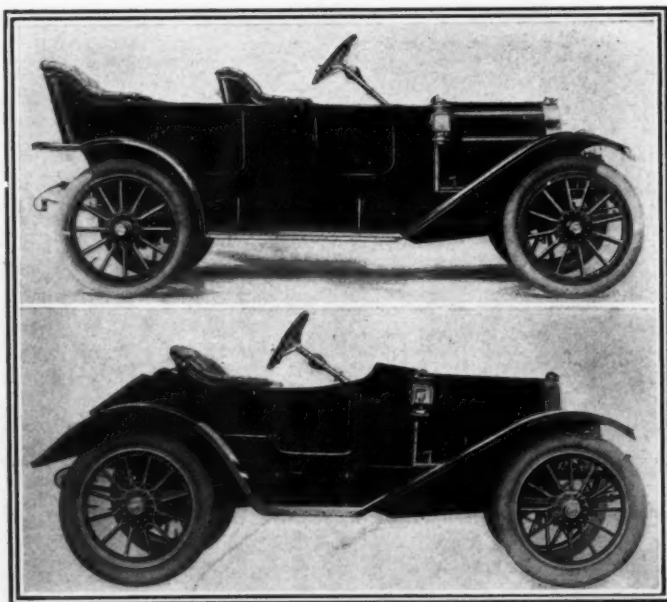


Fig. 7—Overland Model 59 touring car with 106-inch wheelbase and 32 by 3.5-inch tires

Fig. 8—Overland Model 58 roadster with 96-inch wheelbase and 32 by 3.5-inch tires

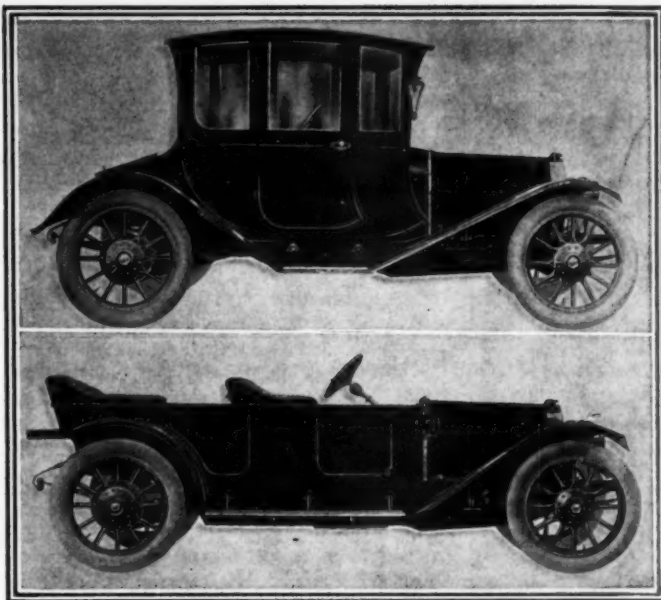


Fig. 9—Overland Model 61 coupé with 118-inch wheelbase and 34 by 4-inch tires

Fig. 10—Model 61 Overland touring car with 118-inch wheelbase and 34 by 4-inch tires

On all models the brakes are of the same design as used this year; that is, internal and external on the rear wheel drums. Fig. 11 shows the method of adjustment. On the brake rocker shaft is a sector, with a slot which has a toothed or serrated margin. The brake connection arm takes a pin with nut on the opposite end. By loosening the nut this arm can be set in any position in the slot in the sector and held there. This gives every possibility of range. By adding the springs all rattling of the external band has been eliminated. These are new. Quick disengagement of the expanding brakes is insured by the springs. The drum sizes are 10 x 2 inches on 58 and 59; 12 x 2 on 60, and 14 x 2 1-2 on model 61.

On all models semi-elliptic front springs are used. On 58 the rear springs are elliptics, but on the 59, 60 and 61 a three-quarter elliptic is used. Fig. 5 shows the bracket for attaching these springs to the frame. The spring is held by three clips and the lower part of the bracket is turned over or clinched on the lower lip of the frame. The heavy corner gusset reinforces the frame at this point.

Where selective gearshifts are used—and they are employed in all but one model—the three-speed set is made use of. On models 60 and 61 chrome vanadium steel gears are used and F & S annular ball bearings fitted. On models 60 and 61 an improvement in direct drive is the use of an internal gear into which meshes the sliding unit, in place of the dental-face teeth for locking the gears formerly used and still continued on model 59. Shifting is decidedly easier with the internal-gear scheme.

The precautions taken by the Overland company to prevent leaking of oil from the motor parts are also in evidence in the rear axle. With rear axles the big problem is to keep the lubricant in the differential housing, where it is needed, and prevent its leaking out at the ends of the axle sleeves and getting on the brake drums as well as on the spokes of the wheels. In this work two systems are used, the simpler on models 58, 59 and 60, and a more elaborate one on model 61. On models 58, 59 and 60 a packing is held at each side of the differential in the axle sleeves. It is retained by a washer at each side of it. The outer washer bears against a shoulder formed by the end of the axle sleeve and the inner washer is pressed against the packing by a coil spring. This holds the packing firmly in position.

In the model 61 a real stuffing-box scheme is made use

of. A stuffing box threads into the axle sleeve and is anchored there. The axle driver shaft where it passes through the stuffing box is ground to give a non-leak fit.

The Overland model 61 has other special features as compared with models 58, 59 and 60. One of these is a new gearshift. The gearshift lever works in a single slot, which is a feature in fore-door bodies and especially so if the shift lever is placed in the center of the car for manipulation by the left hand. The lever has a ball end, which is really not on the lever but on the latch which works inside of it. The lower end of this latch works in two slots, one located above the other, with a crossway between them. The different speeds are obtained as follows: By pushing the lever forward without pressure downward on the ball gives reverse, and pulling the lever back without downward pressure gives low speed. To get second speed the lever is moved forward with downward pressure on the ball, and to get direct drive it is pulled backward with the downward pressure. On the models 58, 59 and 60 a side movement of the gearshift lever is necessary.

Increased Use of Aluminum

According to a recent article in the *Franfurter Zeitung*, the development of the aluminum industry has been unusually rapid, the world's production having risen from 11,500 metric tons in 1905 to 24,200 metric tons in 1909, and 34,000 metric tons in 1910. The distinctive feature about the aluminum trade is that it is in the hands of only 12 companies, of which five account for nine-tenths of the total output. The price of aluminum per kilo. (2.2 pounds) was \$6.50 in 1890, 50 cents in 1900, 80 to 90 cents in 1905, 27 to 36 cents in 1909 and 27 to 38 cents in 1910.

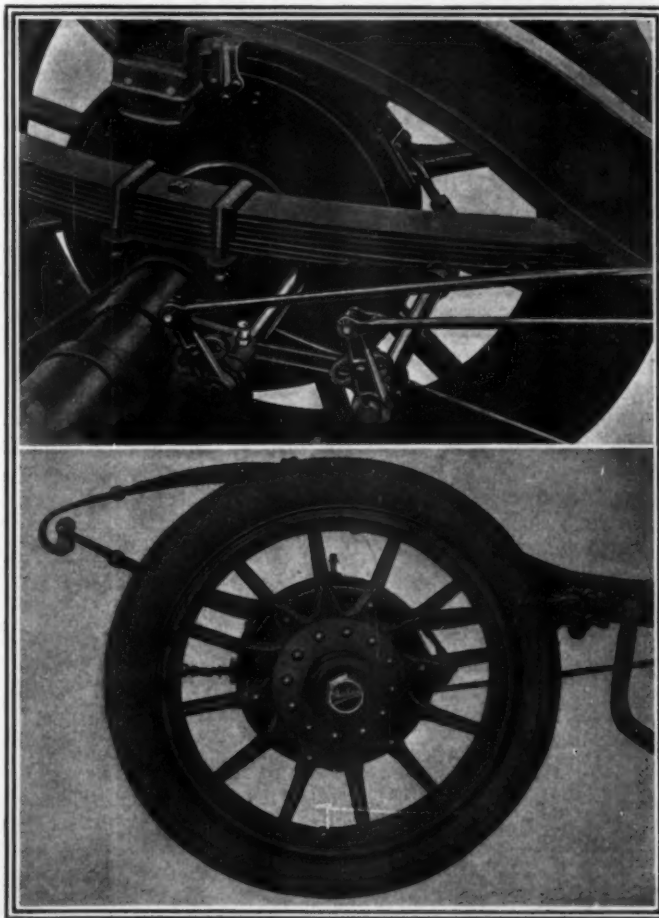


Fig. 11—Brake adjustment details on the different Overland models for 1912

Fig. 12—Heavier wheels are used on the 1912 Overland models on all chassis

The Automobile in Many Lands

HERE are some new and interesting facts connected with the rubber plantation industry in the Malays. Contract laborers—Chinese coolies—on the rubber estates are a sturdy lot of men. A contract printed in English and Chinese, signed by the local representative of the Planter's Labor Bureau, is given to each man. The contract provides for eight hours' work per day, 24 working days per month and extra pay for overtime, monthly payment of wages due and free passage back to Hong Kong after the three years' contract shall expire.

There is wonderful activity in the rubber plantation industry all over the Malay States. Large areas of jungle lands are being cleared for plantation rubber growing. The forests, very dense, are being subjected to the same heroic treatment as is the case in Ceylon and British Guiana, where trees are being planted and cultured. The dense forests are being felled and the underbrush is burned away. Some of the men who realize the rapidly growing demand for paper argue that the wild rubber trees that are being cut down to make way for the plantation industry might be converted into pulp, instead of letting them go to waste. Everywhere in the southeast part of India interest in the new industry is taking on a marvellous impetus. Coolies are in great demand. The planters in the Malays claim that 15,000 coolies are needed to tap and collect the latex of 4,000,000 trees. The planters are beginning to wonder where they will be able to get a sufficient amount of coolies from when the rubber trees of the Malay Peninsula shall have increased to 45,000,000 in number. They are already casting eyes upon China in anticipation of the need of more coolies.

There is much to be done before the rubber is ready to ship from the Malays to London—the charge for which amounts to about \$17 per ton. There is the sorting process, work which requires great care, on account of the various prices that attach to the various grades of rubber, mixed lots selling at a reduction over lots that have been sorted after a system. The thin, transparent sheets and crêpes of rubber are most in demand in the market. After the rubber is put into cases—which are made in Japan, of white wood—it is weighed, a full case containing about 110 pounds. It is then carried to the transportation companies for shipment to London.

The high charges of the London rubber market have had the effect of inducing the plantation-rubber cultivators and buyers of the Malay States to organize a Rubber Exchange in Singapore. This in order that they may avail themselves of the opportunity to purchase raw rubber direct at the place of production. They argue that with this plan in operation they will be able to operate against the London brokers and extend the rubber market. The planters declare that up to the present time they have been absolutely at the mercy of the brokers and that for this reason they wish to have the business transacted near to the base of supply. Singapore being the center of the rubber-producing belt, it offers every advantage as a place of sale.

One firm in Singapore disburses \$5,000,000 worth of raw rubber annually. A member of the firm is authority for the statement that by establishing an exchange a large portion of the para rubber output of the plantations would be marketed there, including Borneo, Malaysia, Sumatra and Java, and for the reason that the planter would be able to obtain the best prices. The services of the local middle-man would be less expensive, and at

Rubber Industry in the East Indies Is a Most Important One—Help Becoming Scarce—Emperor William Now Owns Thirty Automobiles—Mexican Rubber Prices—English Signal Regulations—Other News Items from Continental Districts

the same time more effective, than those of the broker thousands of miles away. The Exchange would be under obligation to prove that prices would be fair, made by free competition of the members to buy and sell

the product entrusted to them. The Exchange would serve as a general storage plant, as well as a meeting place of members, and the business would be handled by a staff of experienced men.

The total amount of cultivated rubber exported from the Federated Malay States and Ceylon during the last seven years was 26,854,842 pounds.

Except in the case of re-exports from England or France, it is out of the question to buy American-made tires in Rio de Janeiro. The automobile accessories imported into Brazil yearly amount to \$150,000, and yet the United States gets only \$12,000 worth of this trade. Such accessories are sold there almost exclusively by agents representing European automobile houses. Another disadvantage which the American manufacturers of rubber tires encounter is the fact that the automobile trade is monopolized by European houses.

Rubber seed has become a valuable commercial factor in China, where it is proving a fine food for cattle. It is also an effective fertilizer. The seeds yield a clear oil, not inferior to linseed oil.

The new motor-car system of taxes went into force in Sheffield on the first day of September, 1910. Licenses are issued upon the basis of horsepower units, and they are apt to make cars an expensive luxury—one which none but the rich or the very extravagant could afford to carry even if so disposed. The new tax rate is from \$4.86 for a motor-bicycle to \$204.39 for a car above 60 horsepower. Many of the larger types of touring cars are being offered for sale at a sacrifice. The demand for cars above 20 horsepower is limited. The most popular cars in and about Sheffield are 15-horsepower machines. On cars of these dimensions a duty of \$19.47 is levied.

The gauge of automobiles in Nuremberg and vicinity is from 4 feet and 1 inch to 6 feet and 1 inch, the size of the car governing the gauge. This is wider than the standard gauge of other vehicles, which is from 3 feet and 7 inches to 3 feet and 8 inches.

There are now about fifty automobiles in Yarmouth, Nova Scotia. This number includes twelve new machines purchased during the year ending in October, 1910. Of the half-hundred machines, thirty-four were manufactured in America. During the Summer half a dozen Canadian-made cars were brought to Yarmouth by cottagers.

Emperor William of Germany has just purchased four more new types of automobiles, thus augmenting his motor car fleet to thirty and again emphasizing his stand as an enthusiastic motorist. The majority of his machines are of German and French make. Six of these cars are utilized as luggage vans. The Kaiser keeps five of his automobiles at Corfu. No other person is permitted to possess a horn like that used on His Majesty's motor cars, the type of horn being that of a peculiar fanfare. When in commission the car bears the Imperial Standard flag, which flies beside the chauffeur by day. This ensign is replaced at night by an illuminated glass shield, revealing the Standard in regulation colors.

English law makes it compulsory upon automobilists to "carry a bell or other instrument" on motor cars. To this end the Local Government Board says that the signal "shall be used whenever necessary." This rather indefinite phrase is some-

times hard to interpret, for example, in a case of alleged neglect, when the matter is referred to a Magistrate. But the problem of the motor car horn, "hooter," siren or "road clearer" has become so great and the kinds of "instruments" in use so numerous that both motorists and pedestrians are in a muddle. To get out of it they are considering the feasibility of calling upon the respective Local Government Boards to agree upon some one definite type of horn to be used. Throughout the country English motorists seem to show a liking for a certain type of bugle, which contains ten notes, comprising the diatonic scale of the key of G, with F sharp and an extra A added.

France has just introduced a new type of motor truck. It is equipped with a tilting platform, about thirteen feet in length, and a capstan. The truck has a capacity for carrying loads of great weight, which, by reason of platform and capstan, are handled both in the loading and unloading at a wonderful saving of hand labor. The platform is tilted over the rear axle, while the loading truck is run out upon the ground. After having loaded the goods upon the truck, the workmen draw the truck back upon the tilting frame by means of the capstan. The frame is then tilted back and locked in its place. Not only have manufacturing concerns and commercial houses adopted the truck, but the military authorities have put it into commission.

Eisenach, Arnstadt and Apolda, in Germany, each maintain extensive automobile manufacturing plants and the output of motor cars and accessories from these factories is growing at a tremendous rate. Naturally, the demand for tires keeps pace. The people residing in the Erfurt region, where the above-named towns are located, know very little about American-made tires, Germany having supplied the bulk up to the present time, although there is one Great Britain firm which keeps a supply of tires in a branch factory in Germany. Tires made in France also go well in this vicinity. Upon the whole, Germany is beginning to demand a higher grade of tire than formerly used. Upolda and Arnstadt manufacture tires principally for small motor cars, the price of which is about \$1,000 or less. The Thuringia hill country in the Erfurt section affords some of the grandest roads in Germany. The great touring cars made in this locality comprise high power, with a relative light weight, the automobiles made here being especially designed with the view to hard climbing. Heavy tires that will stand up, endure the strain over the mountain highways and not skid are in demand. At the same

time these machines must be built so as to resist snow and ice.

The fact that a uniformity of prices prevails in the case of German-made tires stimulates the supposition that this line of industry, as it is conducted in the German Empire, yields a fair amount of profit to the manufacturers.

The requirements of the metric system obtain in Germany, as they do in Great Britain. Some of the American manufacturers have shown a disposition not to conform to patterns of automobiles built for export to the requirements of the metric system. This has proven to the disadvantage of American trade in Germany, at least in the matter of fixtures and mechanical attachments.

Manufacturers of rubber tires in Germany carry on an extensive business not alone with small dealers in automobiles, but they sell direct to the motor car factories. The customary terms given by German manufacturers are thirty days, with 2 to 3 per cent. discount for cash.

Some of the German tire manufacturers give a guarantee on tires "for 10,000 miles, to be run within twelve months from the date of delivery," under conditions which restrict the heft of loads.

Although crude guayule (Mexican) rubber, which sold for a time at \$1.25, has dropped to 60 cents the pound in gold recently, the production in the Torreon section of that country does not seem to have fallen off. The amount of the product shipped from Mexico between November 23 and December 14, 1910, is given as 1,474,000 pounds. New York received the greater portion of it. In addition to this output the State of Coahuila has been coming to the front with a product of guayule rubber which has yielded something like \$450,000 per month. There is a concern in Mexico whose product is over 1,500,000 pounds per month. The promoters are endeavoring to build up a European trade, especially in Germany, France and England. A considerable amount of guayule rubber has already been shipped to these countries. Estimates showing the cost of manufacturing the crude rubber from the guayule shrub run all the way from 40 cents the pound down to ten cents the pound. A great many contracts were made in the beginning—some of these are still in force—for shrubs at from \$25 to \$30 Mexican money per ton. The price at which the shrub is purchased and the expense involved in delivering it to the factory have a great deal to do with the extent of the profit.

Harking Back a Decade

THE following extracts have been taken from the *Motor Review* of October 24, 1901:

Alexander Winton has accepted an invitation from the Detroit Driving Club to use the Detroit track in an attempt to regain the mile track record now held by Fournier, which was wrested from him a few days ago.

George V. Brower, Commissioner of Parks of New York, having given his formal approval to the use of the Coney Island boulevard on Saturday afternoon, November 16, from 1 o'clock until 5, The Long Island Automobile Club announces a series of races for gasoline and electric vehicles, the horsepower of the gasoline vehicles to range from 6 to 20 horsepower.

The first annual convention of the National Association of Automobile Manufacturers, for the discussion of trade topics, will be held in the assembly room of the Madison Square Garden during the week of the automobile show on the forenoons of Tuesday and Wednesday, November 5 and 6.

The Stearns Steam Carriage Company, Syracuse, N. Y., has completed a new style surrey which will be sent to New York to be exhibited at the Madison Square Garden show. The surrey has a boiler of 621 flues and engines of 12 horsepower.

The municipal council of New York City last week aimed a blow at automobiles and their drivers by passing a resolution to enforce the automobile laws now in existence to the end "that pedestrians on the streets, avenues and roadways of the parks and passengers in vehicles drawn by horses may be protected."

The Long Island Automobile Club conducted its initial run of the season on October 12, reaching Garden City at 2 p. m., where a special dinner awaited the chauffeurs, among whom were a number of women.

At the Providence, R. I., race meet it was expected that William K. Vanderbilt, Jr., with his Red Devil, and Foxhall Keene would be present, but owing to accidents to the machines they were unable to start. Arthur C. Bostwick with his 40-horsepower Winton went after records on the track. He soon had the spectators on tip-toe, and when it was announced that his first mile was made in 1:20¾ the people realized that there was speed in the machine. He made the 10 miles in 14:09¾.

Albert Champion, the noted French motor bicycle chauffeur, broke the world's records for 2, 3 and 4 miles in his race yesterday at Vailsburg, N. J. His times were: Two miles, 2:32; 3 miles, 3:50; 4 miles, 5:07, and 5 miles in 6:24.

Special Windshield Adaptations

BY GEORGE J. MERCER

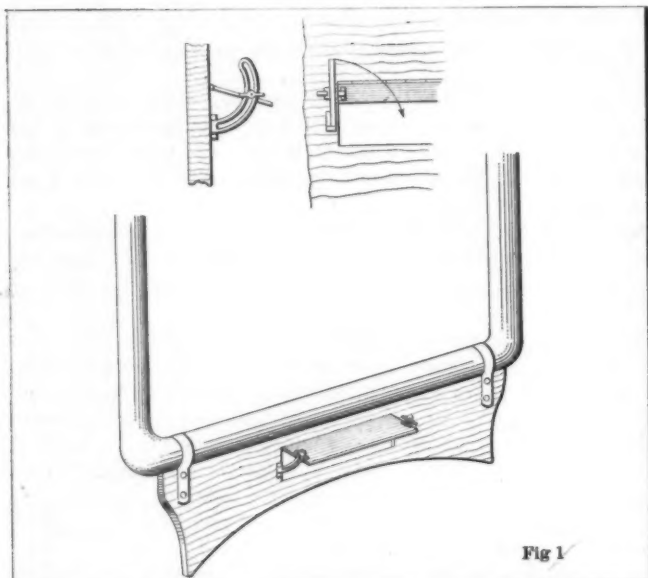


Fig 1

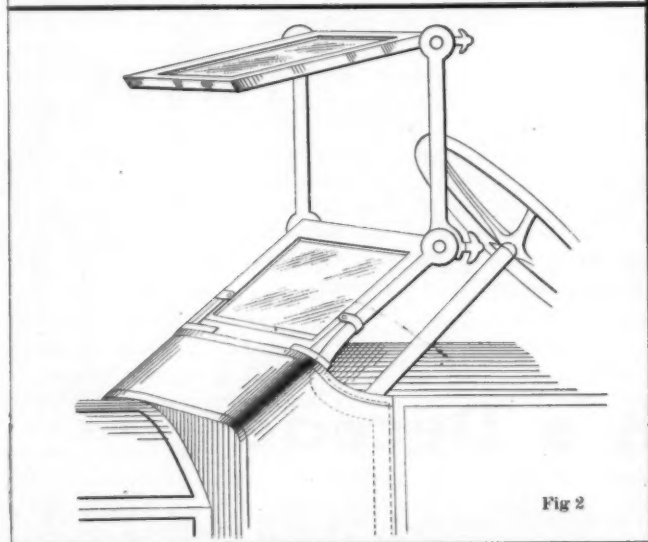


Fig 2

Fig. 1—Ventilator in base board of windshield for fore-door bodies

Fig. 2—The zigzag type of windshield with a leather filler board used

WITHOUT casting any discredit on the general appearance of the stock windshield, it is only reasonable to suppose that the shield made to conform to the body design, and built to the body as a part of it, will always carry a class that the ready-made product is lacking. It is quantity production against custom work and the price is according. Two illustrations, Figs. 3 and 4, show the altogetherness and harmony of design with the shield that is built on the body. The first design, Fig. 3, is used in this country on the Metallurgique car and it is the writer's impression that originally it came out on the English Daimler. It has merit both for its clean, symmetrical appearance as well as for its practical worth. It is made to conform to the design of the body front, the lower panel being a continuation of the cowl. The side rods are made to bend gracefully at the point of intersection with the cowl and are continued down and inside the body to form a supporting brace.

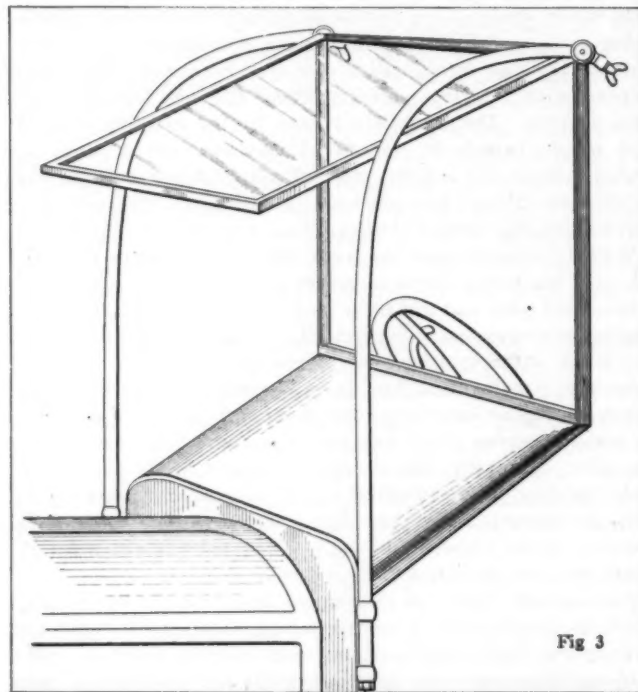


Fig 3

Fig. 3—A type of windshield that has many points of merit and is adaptable to many makes of cars on the market to-day

The use of thumb nuts for fastening the swinging frame in position is shown on the illustration, but there is nothing to prevent the use of the automatic fastening and it would improve the shield, in fact it will soon be an impossibility to market a windshield that is not automatically fastened or made to operate with one hand.

In Fig. 4 is illustrated a shield made on the body. It is generally used on cars that have a very high cowl and where the owner is used to driving his car without an extension top. It can be tilted to any angle desired, the point of turning being at the bottom. The method of securing the braces to the body is shown and no stay rod is required at the front. It can be quickly removed from the body and the painted surface of the cowl is not left scarred as with the ordinary shield.

In Figs. 5, 6, 7 and 8 are four views of an English-made shield that does duty as a protection for the occupants of the rear seat of the car. A friend of the writer's assured him that this shield is as effective as its advocates claim, and his experience during a recent tour in England has made him a convert to its merit, especially for the between seasons when the air is raw and full of misty rain and the wheels are splashing the mud around and the wind is strong enough to carry it back to the tonneau of the car. Figs. 5, 6 and 8 show the plan, front and side views of the shield in position ready for use, and the arrows on the plan view show the means of folding the shield as well as indicating the means of extending or shifting the shield to best suit the needs of the user. It will be noted that there is great flexibility and the supports are made suitable to hold the shield rigid in a great variety of positions.

Fig. 7 indicates the position of the shield when folded and out of commission; it is made to lie closely to the rear of the front seat and there is in addition a shirt or cloth that hangs from the bottom of the frame. This cloth is long enough to

almost touch the floor of the body and its object is to carry the protection afforded by the glass down to a point that the wind cannot enter, and when the glass frame is folded, as indicated in Fig. 8, this cloth can be made to fold over the same in the manner of a robe over the regulation robe rail. This cloth is not shown in the illustrations, as its effect would be to hide the more important parts of the shield.

The windshield until quite recently was listed as an extra by automobile manufacturers; that is, the stock car was a complete unit without it and the purchaser simply went a little deeper into his pocket if he thought a shield was essential to complete the outfit. Any doubt that existed in his mind as to the usefulness of a shield to him as a car user was generally founded on the fact that an inefficient article was being handed to the public at an inflated price because protection from the elements during certain months of the year must be provided for in some manner and a good windshield together with a good top will add the necessary comfort to the touring car and the runabout.

The commercial windshield on the market to-day is uniformly good and the variety is sufficiently large to suit nearly all requirements. The range of models extends from the simple shield, made of celluloid and pantasote, to the intricate shield with metal frame that can be made to assume a variety of different angles for deflecting the wind and the rain and that can also be made to collapse when not required. All these types of shields are common to car users and the description of such will be confined to the new feature that has lately been added to some models now on the market, that is, the ventilator that allows a current of air to be forced downward around the feet of those seated in the front of the car, the object being to offset the heated conditions that exists where fore-doors are used. Fig. 1 illustrates a standard make of shield with a ventilating door in the filler board. It is simply a metal door at the rear or inner side and is hinged at the top so it can be raised to permit the desired opening. The method of fastening is shown enlarged on the two sectional views at the top of the illustration. The slotted side arms are hinged at the bottom and when the door is closed these arms turn, as indicated by the arrow, and lie flat against the door, thus eliminating any projections from the board when the door is closed. The ventilator is still an experiment and the new shields coming out will no doubt present a variety of methods for accomplishing the desired result.

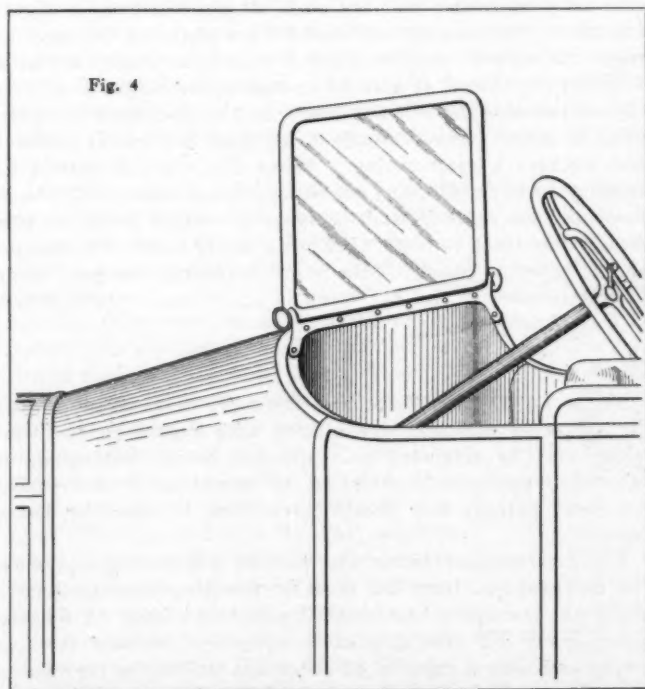


Fig. 4—This illustration shows the results that can be obtained when a windshield is designed to especially suit the cowl dash and where its design harmonizes with the body lines of the car

Fig. 2 illustrates an essentially custom-made shield which can be made to fit any car easily and can be quickly removed or put on. It is easy to operate and is of the zigzag type without being as heavy as the usual shield of that style and the davits or side rods hold the frame firmly without the aid of stay rods. The lower panel is formed of leather and underneath this panel is a small rod from the dash to the frame to keep the latter from swinging forward. The leather will keep it from going backward. With this as with the zigzag shield the extension top can be made the minimum length forward over the driving seat. This shield is an American improved adaptation of the French model brought out a few years ago.

A SUBSTITUTE FOR PLATINUM.—The great increase in the price of platinum, which is due to its scarcity, is resulting in a brisk demand for another rare metal which seems destined to take its place in many industrial applications. Palladium is the metal which possesses practically all the properties of platinum, being extremely hard, malleable, ductile and refractory to acids. Lately this substance has been obtained in relatively large quantities from the mining districts of Ontario, Canada. In the reduction of 200,000 tons of nickel ore 3,000 ounces of palladium is one of the valuable by-products.—*Riviste Mensile del Touring Club Italiano.*

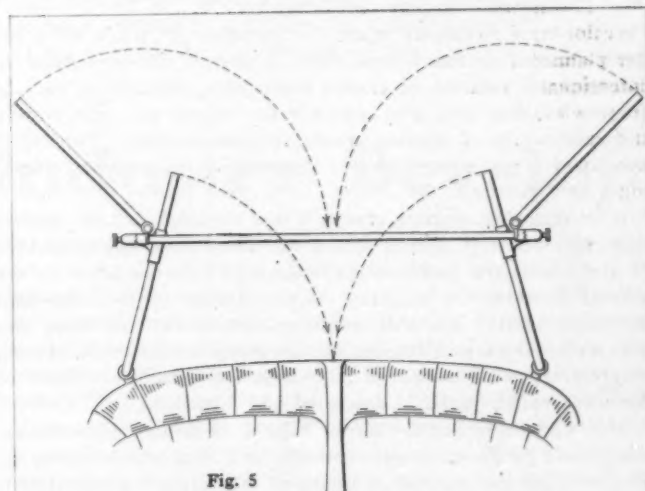


Fig. 5

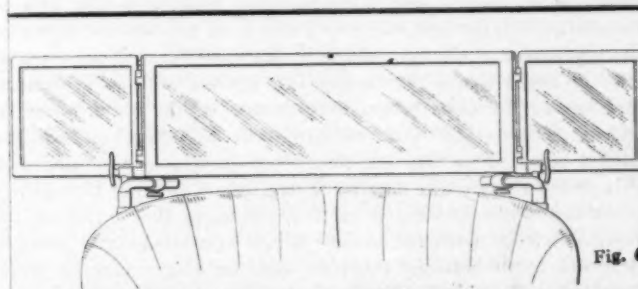


Fig. 6



Fig. 7

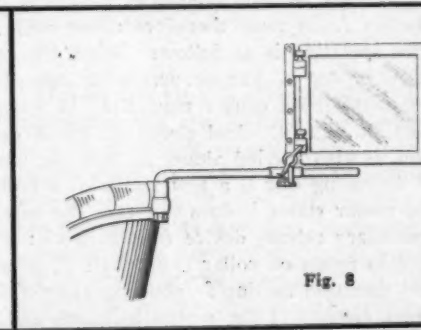


Fig. 8

Figs. 5, 6, 7 and 8 show different views of a type of windshield that can be carried on the back of the front seat of a car and used for the benefit of those in the tonneau. It has a wide field of uses and is a big comfort factor in a car

Digest of the Leading Foreign Papers

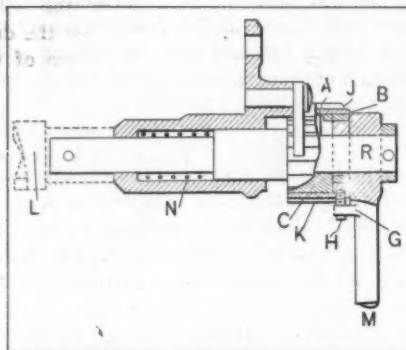


Fig. 1—The Clemencet safety starting crank

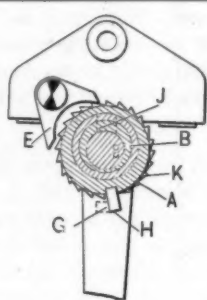


Fig. 2—The Castagnet safety starting crank

FIFTY-EIGHT competitors responded to a call from the Industrial Society for the

Safety Starting Cranks

Prevention of Accidents in the Performance of Work when the latter planned an international test of devices for preventing all unintentional rotation of cranks for hoisting apparatus, such as cranes, winches and iron shutters for stores and warehouses, and particularly of starting cranks for automobiles. The object was to arrive at some standard construction by which accidents could be eliminated.

With regard to starting cranks it was required that the devices submitted for test should effect the immediate disengagement of the crank the moment the engine is either started in the normal direction or backfires. Only sixteen of the fifty-eight devices submitted met this condition and five out of these sixteen were for various reasons not presented at the trials, leaving only eleven to be compared and judged in practice. Some of these are herein partially described and illustrated.

The Clemencet safety crank, Fig. 1, is connected with the motorshaft by the customary jaw-clutch *L* and release spring *N*. The boss of the arm *M* is mounted idly upon the motorshaft extension *R*, but its axis is eccentric in relation to the axis of the shaft. On the arm there is a dog *G* to receive the thrust of disengagement. On the shaft *R* there is formed an integral collar *C* and a sleeve *A* mounted idly upon it with its cylindrical bore having the same eccentricity as that of the crank boss; its surface is provided with ratchet teeth *K* acting against the ratchet pawl *E*, so that the sleeve can turn only with the sun. This sleeve also carries the dog *H*, and when this dog *H* is nearly in contact with the dog *G* on the crankarm the center of the sleeve coincides with the center of the crank-boss and there is therefore room between the boss and the sleeve for the cylindrical ring *B*, which engages a slot in collar *C* by means of feather *J*. It must therefore rotate with collar *C* and shaft *R*. The operation is as follows: When the crankarm is turned for starting, dog *G* has no action on dog *H*. The eccentricity of the crank boss causes ring *B* to be gripped at once, carrying shaft *R* with it. And sleeve *A*, which can move in this direction, is also carried along, so that the whole system turns, dog *H* following dog *G* a few tenths of a millimeter behind. When the motor starts it does not take the crank with it, even if the customary release device fails to work; in fact, sleeve *A*, being free to rotate on collar *C* on shaft *R*, is held from movement in this direction by dog *H* abutting against dog *G*, and the ring *B* turns freely. If the motor backfires and turns the shaft *R* in the opposite direction the sleeve *A* is immediately stopped by the pawl *E*, the dog *G* is arrested by the dog *H* on the sleeve *A* and the ring *B* turns freely. The crank *M* is thus immediately

released in either case when the motion is started from shaft *R*.

In the Castagnet safety crank,

Fig. 2, the shaft *B* of the crank *A* carries a miter gear *E*. Two pawls *F* are so placed that one or the other can act at once, being spaced half a tooth apart in their action (though the illustration does not show it). They are applied against the miter gear by means of two helical springs *G* enclosed in the hollow adjustment screws *H*. The end of the crank spindle is provided with the usual clutch for gripping the motorshaft. In operation, if a reverse movement is produced, the crank tends at first to being carried along, but by reason of the angle of the pawls and the form of the gear teeth there is produced a longitudinal displacement of the spindle which causes the immediate disengagement of the clutch.

In the David safety crank, partially shown in the sectional view, Fig. 3, the crank hub is mounted upon the motorshaft *A* by means of a shoulder, a washer and a screw nut. The crankarm is secured to the collar *H* by a cotter. The collar *H* is externally concentric with the shaft *A*, while its bore is slightly eccentric. Two segments *K* and *K1* are placed in the space between the collar *H* and the shaft *A*. *K1* is secured to the collar *H* by screws, but *K* is notched to receive the rollers *g* and carries on one side the helical spring *r* and on the other the spring pawl *m*, which passes through a mortised hole in the collar *H* and engages a ratchet ring. When the crank is turned for starting the collar *H*, being eccentric, pinches segment *K* between itself and the shaft *A*, and the latter is rotated, while the pawl jumps from tooth to tooth. When the motor starts *K* is loosened and the crank is freed. If the motor is reversed the pawl immediately releases *K* and the crank is again free.—From *Bulletin Official*, August.

MOTOR POWERS FOR FARM AND SHOP—In reply to an inquiry, the following estimates are offered with regard to the work which may be entrusted to a gasoline motor, automobile or otherwise, particularly referring to work which in common European practice has usually been done by hand or horsepower.

The 4-horsepower motor can operate a threshing equipment (as distinguished from the portable threshing machine outfit), which has previously been worked with two horses. A 6-horsepower motor will take care of an equipment intended for four horses and with a capacity of about 150 bushels, in the case of wheat, per day. A 2-cylinder motor of 8-horsepowers will operate an equipment turning out 250 to 300 bushels of wheat per day and provided with a chaff-blower, a cleaner and a mechanical

binder. With the same equipment a 10 to 12-horsepower motor will increase the output about 50 per cent.

Eight horsepowers will operate a circular saw cutting about 14 inches deep at the rate of 3 feet per minute. With a bandsaw the depth of the cut may be doubled.

The 4-horsepower motor will produce electric light for forty lamps of 16 candlepower each, at a cost of 5 cents per kilowatt (would be 2 cents per kilowatt at American prices for gasoline, provided the motor did not waste the difference by reason of poor design). An 8-horsepower motor is sufficient for running a moving-picture machine or to light a hall with a seating capacity for 300 to 500 persons.

The 4-horsepower motor will turn at the same time a cream separator, a churn, a feed-mixer, a kneading machine and a washing machine on a farm of medium size. It can pump sufficient water in 1 hour from a depth of 90 feet for supplying a farm of 200 to 300 hectares (1 hectare equals 2.4 acres) with all the cattle usually kept on such an acreage. It is also amply large for doing all the power work in a small brewery and for running all the tools is a cabinet maker's shop. In a machine shop it will run at the same time two lathes, three drills, a milling machine and an emery grinder.

With 2 more horsepowers the farmer can run at the same time a chaff-cutter or a crusher and a root-cutter, a pump and a sheep-shearing machine.

A contractor with a motor of 4 to 6 horsepowers can transport by wagonets 2,000 cubic meters or yards of excavation material in 700 hours over a distance of 3 kilometers and with

a difference in levels of 300 meters. He could take the same quantity a distance of 150 meters and to a level 15 meters in 35 hours.—From *La Vie Automobile*, Sept. 23.

HOW TO SAVE FUEL—First of all give the carbureter plenty of air. In nine cases out of ten the mixture used is unnecessarily hot after the motor is once warmed. When running down hills, either take the clutch out and throttle the engine to dead slow, or shut the throttle off altogether and let the engine brake against the compression whenever possible. In this case there should be an air inlet upon the induction pipe, to be opened so as to prevent the formation of partial vacuums in the combustion chambers and the resulting flooding thereof with lubricating oil. Or else, the gear can be put into the neutral position and the engine stopped—that is if it starts easily off the switch on every downgrade. Much fuel may be saved by keeping the pace down to the most economical speed, which for ordinary cars is generally about 20 to 25 miles an hour on the top gear, as above this speed the wind resistance comes in as an important factor in adding to the work to be done by the engine and puts up the fuel consumption at once. Lastly, there must not be any racing of the engine up hills on any speed, and the engine must not be left working when any stop over half a minute is necessary. In a month's running of about 1,000 miles, the writer has been able to save about 9 gallons of gasoline, by following these precepts, making 17 1-2 miles per gallon instead of 15 miles, at by his previous driving practice.—From *The Car*, Sept. 27.

Mexican Rubber Industry Develops

TORREON, MEXICO, Oct. 10—The industrial world may well be astounded at what has been accomplished in the development of the guayule rubber industry during the last 7 years in Mexico and Texas. The report of the Federal government just issued shows that during the last fiscal year there was exported from Mexico refined and crude guayule rubber to the value of \$32,985,679. This was an increase of \$6,757,490 over the value of the guayule rubber exportations of the preceding fiscal year. But for the interruption of the different rubber manufacturing plants during the period that the revolution was in progress the value of the product manufactured during the year would have reached nearly \$50,000,000, it is said. For several months several of the larger factories in the Torreon district were shut down and nothing was done upon the ranch lands in the way of cutting the shrub.

When the fact is considered that 8 or 9 years ago the guayule shrub was unknown as a source of rubber supply and that since the discovery that it yields a good quality of the product more than \$60,000,000 has been invested in the industry in Mexico and about \$2,000,000 in Texas, the enormous annual production that is now being obtained is remarkable.

Practically all of the guayule rubber produced in Mexico is exported to the United States, where it enters largely into the manufacture of automobile tires and electrical appliances. Owing to the fact that most of it is mixed with the Para product when it gets to the refineries and manufacturers it loses its identity as to name so far as the general trade is concerned.

It is not known here what the production of guayule rubber in Texas during the last fiscal year amounted to, but it is said to have been considerable. The development

of this industry in Northern Mexico and in the upper Rio Grande border region of Texas means that the United States is now equipped with a new element of industrial greatness. The supply of guayule shrub is practically inexhaustible. It is indigenous to a region embracing many millions of acres of land that is almost worthless for any other purpose. The shrub belongs to the semi-desert class of vegetation and grows slowly under natural conditions, but it has been proved by experiments that by cultivation it can be made to attain a commercial size in 2 years after planting. In its wild state it takes about 4 years to reach the desired height for cutting. The shrub is being extensively propagated in Mexico and Texas and experiments are being made in growing it in New Mexico and Arizona.

The two largest guayule rubber producing interests in Mexico are the Madero family, to which President-elect Francisco I. Madero, Jr., belongs, and the Intercontinental Rubber Company and its subsidiaries, which is controlled by the Rockefeller-Aldrich syndicate. This city is the chief manufacturing center of the industry. Besides the large rubber factories that are situated here a number of others are scattered through the states of Zacatecas and Coahuila.

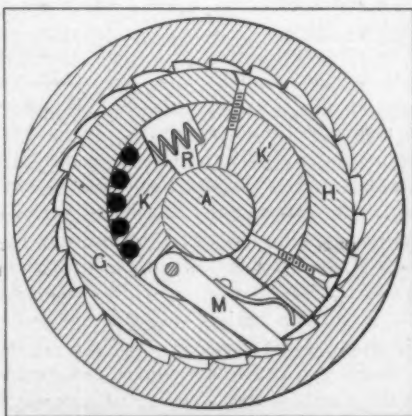


Fig. 3—The David safety starting crank, which was one of the competitors in the contest promoted by the Industrial Society for the Prevention of Accidents in the Performance of Work

ONE OF THE THINGS which a careful automobilist should always have at his disposal is a stick which is notched at various points along its length. The stick can be inserted into the gasoline tank opening for the purpose of determining the amount of gasoline in the tank. The notches are laid off in spaces which represent a gallon a notch. When the stick is withdrawn the part which is wet will indicate the depth of the gasoline.

Letters Answered and Discussed

Use a Pair of Calipers

Editor THE AUTOMOBILE:

[2,880]—I wish to determine whether a steel shaft that I am going to use as a drive-shaft for a piece of machinery has any taper or if it is perfectly straight and if the same diameter throughout its length. Could you tell me any accurate method of determining the taper, if there is any, and how I can measure it?

READER.

Davenport, Iowa.

The simple calipers are about as good

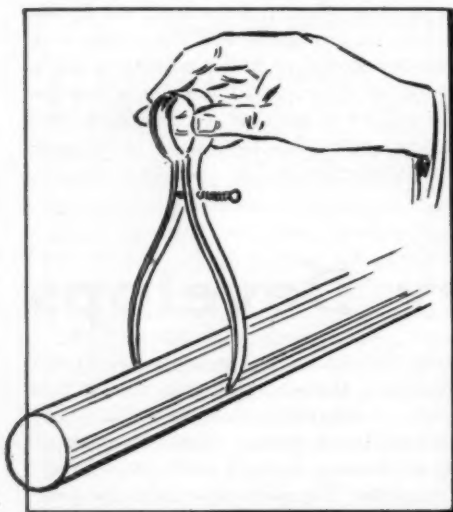


Fig. 1—Calibrating a shaft is the best method of detecting taper

a tool as there is to use for the purpose you desire. The calipers are held above the shaft, as shown in Fig. 1, and allowed to slip over the shaft in such a manner that they are not sprung as they are slipped over, but the points just fit snugly over the shaft. The calipers are set at this measurement and then tried at various points along the length of the shaft. If they will not pass over the shaft, or if they pass too loosely, there is an irregularity in the shaft which may be scaled as follows. The calipers are set to the part of the shaft with the largest diameter and then moved along the shaft. The differences are obtained by inserting a feeler gauge between the calipers and the shaft.

Testing for Radiator Leaks

Editor THE AUTOMOBILE:

[2,881]—I know that there is a leak in my radiator but I do not know where it is. Would you kindly tell me how to go about finding it? The radiator is of the tubular type.

H. W.

Mount Vernon, N. Y.

As the average car owner has no supply of compressed air on hand he may use a tire pump. The radiator is placed in a tub of water, as shown in Fig. 2, and the tire pump connected to it. A plug is placed in the water outlet at the bottom of the radiator and the air pumped in. Bubbles coming from the leak will indicate exactly where it is located.

The leak may be readily repaired by means of a little prepared solder. The solder is made so that the metal is cored out and the flux placed in the center. This will save the trouble and time of preparing the flux outside of the work of soldering. The prepared solder generally comes in sticks and can readily be used with a candle or match. If matches have to be used, two or three of them can be burned at once so that the flame will be hotter than that given forth by one match. It will often be found that a candle is not handy just at the time it is needed for the repair work.

Has Carburetor Troubles

Editor THE AUTOMOBILE:

[2,882]—Will you kindly give me reasons for my trouble? I have a single-cylinder motor which I am unable to start. Everything seems to be in good condition, but I can get no explosions except by putting my hand over the intake pipe of the carburetor and shutting off nearly all air; in this way I can occasionally get very weak explosions, but the carburetor will flood in a very short time.

I have tried adjusting the carburetor in every way possible but can get no results. The carburetor is about 6 inches from the cylinder and is connected to manifolds of 1-inch brass pipe.

J. U. H.

Salem, Mass.

The symptoms given may apply to many cases and it is difficult to say what the cause of the trouble might be. Examine the manifold connection to the engine and carburetor to see if there is a leak which manifests itself at either of these points. The needle valve of the carburetor perhaps requires grinding in order to prevent too great a flow of gasoline into the float chamber. The float of the carburetor may bind or stick in such a way that the gasoline supply is not properly regulated. Take the carburetor from the engine and examine the float for the purpose of determining whether there is anything which interferes with its action. There might be an air lock in the piping from the tank to the carburetor. Do not permit any vertical bends in the piping. Perhaps there is

no vent in the fuel tank to permit the air to enter as the gasoline leaves. As a final resort, if the above causes are not suitable to your case, the carburetor should be sent to the factory for examination as it is probably defective. This advice is based on the assumption that the other parts of the motor are in good condition.

Wants Non-Freezing Solution

Editor THE AUTOMOBILE:

[2,883]—During the Winter months I store my car in a garage where the temperature often drops below the freezing point. Consequently I have to drain my radiator to prevent it from being damaged. Do you know of any solution which one could add to the radiator water to prevent freezing under ordinary temperature conditions, and, at the same time, be absolutely harmless to the circulating system?

W. C. MAND.

Chatham, N. J.

Denatured alcohol is about the most commonly used solution; it is harmless and effective. A 20 per cent. solution will freeze at about 10 degrees above zero; this is a proportion of 1 quart of denatured alcohol to 1 gallon of water. A 30 per cent. solu-

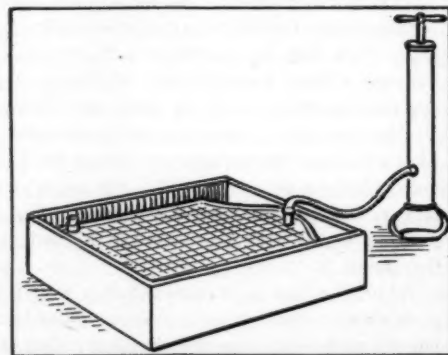


Fig. 2—Illustrating method of testing for leaks in radiator

tion, 1 1-2 quarts of denatured alcohol to 1 gallon of water, would freeze at about five degrees below zero. Freezing point of water is at 32 degrees above.

Care of Mohair Tops

Editor THE AUTOMOBILE:

[2,884]—What is a good dressing to make mohair tops waterproof? How is it applied?

MURRY FAHNESTOCK.

Alleghany, Pa.

In the issue of September 7, on page 394, there is an answer to a similar question which will cover this case. In other words mohair tops should not be dressed.

Wants Article on Transmission

Editor THE AUTOMOBILE:

[2,885]—I am very much interested in your paper and would like to see an article on transmissions, progressive vs. selective types. Just at present I am having trouble with my gearset, having broken a countershaft and two main shafts. The gears are noisy and rumble while in mesh and the car jerks when going slow if I disengage the clutch with either first or second gear in mesh.

J. W. REEVE, JR.

New York City.

The gearset you employ is no doubt inadequate to fit the needs of the car and should be replaced by one made by a reliable concern. It is very well possible that the clutch is also in need of refacing if it takes up fiercely at low speeds. If it is a leather faced cone clutch it should be blocked out of engagement by propping the pedal and castor oil applied. A liberal coating of oil should be given and allowed to stand over night.

Uses Too Much Oil

Editor THE AUTOMOBILE:

[2,886]—As a subscriber to your valuable paper, I would like to ask you some questions regarding my engine.

The front cylinder seems to let oil through it when running; I have taken the cylinder head off and find that the rings are tight. I poured oil in the cylinder with the head down about 1-2 to 1 inch from the top and poured oil into the cylinder. It held the oil tightly and the cylinder has splendid compression.

The engine runs very well but it consumes entirely too much oil. As there are no leaks in the crankcase outside of a few drops, I cannot understand where it goes

or how it gets into the top of the cylinder. None of the other cylinders give any trouble in this way the trouble being entirely confined to the cylinder nearest the radiator. It gathers carbon quickly while the other cylinders rarely have to have their spark plugs cleaned; the motor runs as noiselessly as the majority and is economical in all respects except in the matter of lubricating oil.

ED. C. BATES.

Clarksville, Tenn.

If you will take the piston rings out and replace them you will find that this trouble will disappear. The trouble is that while the engine is running the oil will be forced past them because they are worn.

Illustrates Score Board

Editor THE AUTOMOBILE:

[2,887]—I take pleasure in sending you a photograph of the score board of the fourth annual 200-mile race of the Quaker City Motor Club (reproduced in Fig. 3), held in Fairmount Park, October 9. I am sending this because it is a complete story of the standing of the cars in the race, and because as a work of art it stands alone in this respect. This board is 22 ft. high by 44 ft. long, and the excellent system that the writer inaugurated as official timer and scorer enabled the public in 95 per cent. of the time to obtain figures from fifty seconds to one minute and ten seconds after the cars had crossed the tape. In other words, to show our excellent timing and scoring there was only a delay of from fifty seconds to seventy seconds after a car would cross the tape before the painters would have the score recorded on the board.

No time in the history of automobile racing has there been a score board of this character provided that afforded a correct

record of the race and the score so quickly recorded.

Believing that this photograph and the above information will be of interest to you, and that you kindly acknowledge receipt of this, I remain,

Yours truly,

PAUL B. HUYETTE, M.C.

Philadelphia, Pa.

A Little Road Incident

Editor THE AUTOMOBILE:

[2,888]—As a little illustration of how hospitable people will be along the roads I wish to relate an experience I had the other day while taking a short cross-country tour up in Connecticut. We were going along the road at a fair rate of speed when the car skidded in turning a corner and ran into a telegraph pole. The steering knuckle snapped and we were left helpless upon the road.

Evening was approaching and a rain-storm threatened at any moment, the wind blowing out of the northeast with all the discomfort accompanying it which a northeaster can possibly bring with it. There were two ladies in the car, and the roads were in no fit state for any pedestrian, so we were "up a tree."

While we were debating what to do under the circumstances, an old farmwagon hove in sight and, seeing our plight, stopped. After considering us for a short time in the way of countrymen, he announced that he had some neighbors who lived nearby and they would be glad to shelter us from the rain. It had started to fall. Well, to make a long story short, we sat down to the best kind of a New England dinner and the farmer's son guarded the machine until help arrived from a nearby village which was blessed with a garage.

C. Q. D.

New York City.

QUAKER CITY MOTOR CLUB Fourth Annual 200 Mile Race.																												
DIVISION	No.	CAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
6C NON STOCK	1	FIAT	DID NOT START																							1		
	8	BENZ	7:34	5:02	22:41	30:28	38:19	46:05	53:56	61:46	69:34	77:21	85:08	92:51	8	100:00	108:13	116:41	124:25	134:00	142:30	151:55	157:28	165:06	172:07	181:07	191:00	
	15	FIAT	7:52	5:41											15													
5C NON STOCK	2	NATIONAL	7:51	5:40	27:43	35:38	43:34	51:27	59:15	67:03	74:55	82:59	90:55	98:44	2	106:33	114:08	122:02	129:47	137:15	147:46	155:46	167:01	174:53	187:47	190:30	198:14	205:50
	3	LOZIER	7:55	5:47	23:40	31:34	39:30	47:32	55:23	63:13	70:57	78:48	86:36	94:19	3	102:00	109:50	118:34	126:16	135:19	143:02	150:47	158:31	166:28	175:47	183:54	192:08	200:16
	9	LOZIER	8:17	6:25	24:34	32:41	40:51	48:58	57:02	65:04	73:08	81:13	89:14	97:18	9	105:24	115:32	125:55	133:59	142:15	150:28	158:20	166:28	175:47	183:54	192:08	200:16	
	17	MERCEDES	7:52	5:40	23:30	31:26	39:19	47:12	55:06	63:02	70:57	78:37	87:29	95:14	17	103:02	110:58	118:40	126:28	134:18	142:04	149:51	157:41	165:44	177:00	184:47	192:30	200:14
	18	MERCEDES	8:27	6:41	24:39	32:39	41:31	49:44	57:57	66:07	74:20	82:34	90:32	98:32	18	117:49	127:10	145:01	154:06	167:05	175:12	188:44	197:10	208:29	217:46			
4C NON STOCK	6	NATIONAL	8:38	7:09	25:33	34:04	42:35	51:03	59:16	67:30	75:42	84:00	94:49	103:25	6	111:46	120:01	128:14	136:30	144:46	153:19	161:30	169:47	178:01	186:23	194:18	201:57	
	10	STUTZ	9:09	7:55	26:26	34:24	42:18	50:12	58:16	66:17	74:07	82:01	89:20	98:02	10	115:22	124:03	132:48	141:42	150:30	159:14	168:09	176:53	185:34	194:21	203:09	211:45	
	16	NATIONAL	8:30	6:46	24:38	32:12	41:24	49:32	57:38	65:42	73:57	82:07	90:15	98:16	16	106:24	114:30	122:35	131:12	140:00	148:18	156:57	167:00	176:22	185:37	194:52	203:58	
3C NON STOCK	4	COLE	8:34	6:58	28:27	37:42	47:59	57:45							4													
	5	MERCOER	8:30	6:49	25:05	33:22	41:38	49:55	58:11	66:24	74:31	82:37	90:45	98:54	5	107:17	115:40	124:40	134:16	144:46	154:46	164:53	175:05	185:36	195:56	206:16		
	7	CASE	8:41	7:22	26:03	34:47	43:31	52:15	60:24	68:51	77:02	85:26	93:01	104:30	7	113:02	121:40	130:34										
	11	MERCER	8:21	6:37	24:51	33:06	41:15	49:23	57:36	65:51	74:05	82:24	90:39	98:53	11	107:03	115:10	123:14	131:29	139:50	148:24	156:55	165:49	175:24	184:52	194:14		
	12	OHIO	9:29	8:46	27:47	36:49	45:44	54:35	63:26	72:17	81:08	89:99	98:34	107:34	12	133:02	142:15	151:37	160:43	169:17	178:42	187:53	197:05	206:07	215:24			
NON STOCK	14	BERGDOLL	DID NOT START																							14		
	19	OHIO	9:58	19:54	29:49	39:39	49:23	59:04	68:47	78:30	88:57	98:44	108:24	118:13	19	127:50	137:35	147:22	157:03	166:44	176:22	186:09	195:55	205:26	215:21			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	

Fig. 3—Illustrating the score board used at the Fairmount Park races recently

Little Bits of Motor Wisdom

Pertinent Pointers of Interest to Repairman and Driver

CAM ACTIONS—The principle of the wedge is not applied in a more useful form than in the cam. In nearly all machines some part of the mechanism is manipulated by means of the action which is imparted to its various parts by a cam arrangement. In the internal combustion engine this principle has been utilized to the greatest extent in the operation of the valve mechanism. To secure the greatest efficiency possible with a given engine the valve action must be correctly timed, the gases must be admitted to the cylinder at the proper instant and must flow into the cylinder in such an interval of time that the required weight of charge is in the cylinder and at the same time not overlap any other part of the cycle in such a way that it will interfere with it.

In the case of an average valve timing, which was compiled by taking the timing of several different cars and striking an average between them, the cams were arranged so that the inlet cam held open the valve which it manipulated during the time that the crank passed from 10 degrees past the upper dead center until it reached a position 30 degrees past the lower dead center. The exhaust cam in this case was arranged so that it held the valve open from 40 degrees before lower dead center on the end of the explosion stroke to 5 degrees past upper dead center. It will be noticed that while the inlet valve was held open for 110 degrees the exhaust valve was held open for 135 degrees. This difference in the length of time that the valves are held open will entail a difference in shape of the cams which may be well brought out by illustrating the cams on an average en-

gine. The cams shown in Figs. 2 and 3 bring out the difference in contour between the exhaust and inlet valve cams. The cams which have the longest face are for the exhaust action while the shorter faced cams are for the inlet. If the actions of the inlet and exhaust valves were similar so far as time of opening were concerned the shape of the cams would naturally be exactly similar, though they would be set at a different angle on the camshaft.

There are many variations so far as the relative valve opening and closing times are concerned; these variations being based on the different theories of the designers of the various makes of engine. There are two principal theories, however, which hold sway at the present day in the inlet timing of the four-cycle motor. According to one idea the inlet valve should open before the exhaust valve closes so that the entering charge will aid in scavenging the motor by sweeping out the remainder of the dead gases. The other scheme, which is used by the majority of engine builders, is to have the inlet valve open shortly after the exhaust is closed. In the average engine above mentioned, the period between the closing of the exhaust and the opening of the inlet valves is 5 degrees in the crank circle.

USING THE HACKSAW—The hacksaw is among the tools which may be used for a variety of purposes. Four of the different pieces of work which may be accomplished with this useful tool are shown in Fig. 4. The operation indicated by A, in this illustration, is one of cutting a piece

from a solid block. This is a tedious piece of work at best, but could not be accomplished by any other hand tool as simply as it may be done by means of the saw. The work may be clamped in the vise in the manner most convenient for the workman to proceed with the operation and may be shifted from time to time according to

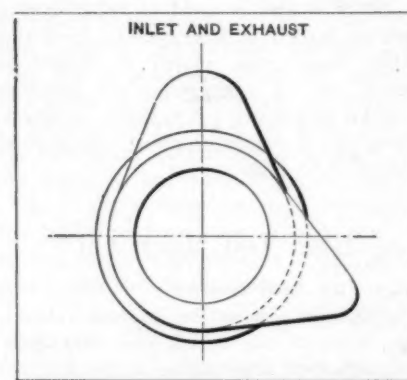


Fig. 2—Showing the relative shapes of the inlet and exhaust cams

the manner in which it is required to make the cut.

At B the operation of removing a tight bushing without damage to the part containing it is shown. If the bushing is removed by driving it from the pinion, there is a great chance that the pinion would be marred or the teeth destroyed or damaged in some way. By using the hacksaw a simple vertical cut or two may be made which will permit of the removal of the bushing without trouble. A wise precaution which may be taken in performing this operation or any other in which the part is clamped within a vise, is to slip a piece of wood between the jaws of the vise and the part enclosed within them. The wood being so much softer than the metal will take up the squeeze of the vise and hold the part firmly, yet at the same time the sharp metal edges of the vise will not be able to mar the metal.

It may sometimes be necessary for the automobilist who strays far from the beaten path to make himself a gearwheel which will at least fill the position of a disabled member for a short length of time. At C this operation is being carried out. It will take a long time to do it, but in the case where the automobilist is far from the factory or nearest service plant it will perhaps take him a shorter time to set to work with the saw than it would for him to wait until the needed part ar-

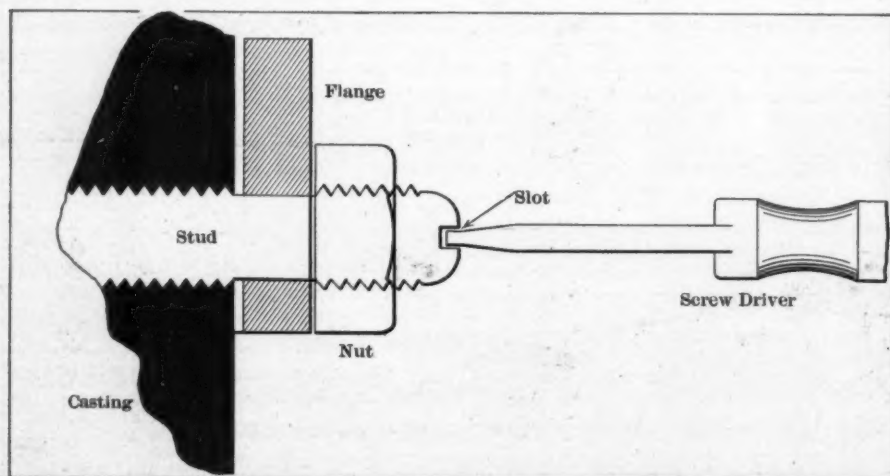


Fig. 1—A case where a stud may be fitted which can be adjusted by means of a screwdriver

rives. The broken gearwheel will serve as a guide and template in laying out the new wheel; or, if the old wheel be lost, the diameter of the pinion required may be measured on the machine itself. The number of teeth in the wheel will depend on the function it is called upon to fulfill. It may be easily calculated at any rate by remembering the simple rule that the number of teeth upon a gear wheel of any size varies directly with the diameter of the wheel when the pitch of the teeth is constant. The pitches of the teeth on wheels which operate in mesh with each other are naturally the same.

It may often be the case that a screw of a certain size will be required at a place and that there are none available. If the operator is equipped with a hacksaw the problem will resolve itself down to about a half hour's work. A bolt of the same size as the screw required may be clamped in the vise. The head is then sawed off by a horizontal cut. The next operation is depicted at D. The operator has merely to make a vertical cut into the top and a perfect screw will be made. The threads may be filed from the top if it is desired.

SCREWDRIVER HANDIER.—There are many instances where the parts which require frequent adjustment on the automobile are not so accessible as they might be. In fact accessibility is just becoming prominent in the minds of those to whom the world looks for the best in automobile design. In the automobile, as well as in all new mechanical devices, the first developments lie almost entirely along the lines of the really essential features, while those things which would tend towards the greater comfort and convenience of the operator of the machine, and yet are not an absolute necessity in the construction, were not considered of prime importance.

It will often happen that a nut is fitted upon the motor at such a place that while it may be entirely within reach before the motor body is mounted upon the chassis or the motor itself placed within the chassis, yet after the assembly has been made it requires a series of gymnastic feats to tighten the nut after it has been removed. The nut may be brought home a considerable distance and yet it will be a physical impossibility to give it the final turn which will produce the necessary tightness of fit. This is generally the case where the wrench can not be properly applied owing to the cramped position.

The screwdriver can often be used in cases where it would be impossible to attempt to use a wrench, so that if the end of the stud is threaded as shown in Fig. 1, it may be screwed home by the screwdriver. The nut in this case would act merely as a lock-nut. The screwdriver would have to be large in order to do its duty properly in a case of this kind, as there would naturally have to be a considerable amount of force employed to turn the stud home as tightly as if a wrench were employed. The greatest advantage in the use of a wrench is the amount of leverage which can be employed when it is desired to tighten the nut as firmly as possible. A screwdriver, however, if composed of good material so that it will not crumble away at the end if pressure is placed upon it, will be perfectly capable of turning the nut as far as it is necessary. In many instances the end of the screwdriver may be flattened and the wrench placed over this part of it.

It will be a matter of but a few minutes to make the change described above and of applying the screw-headed stud to a part such as is depicted in Fig. 2. The nut will take some of the strain, so that it will not all be upon the threads within the tapped hole. The screwdriver will be much handier to manipulate in the cramped space than the wrench, and will be found to give adequate satisfaction so far as tightness is concerned. A point to remember in connection with the neatness of the job is that the length of the end of the stud screw should be regulated so that there will not be a long shank projecting out behind the end of the nut. A small amount may be allowed; that is, enough so that there will be no danger of the stud being shorter than the end of the nut.

USE STRAPS FOR BAGGAGE.—The ancient rope is one of the most useful of man's servants, but in spite of this fact it has its limitations, which cannot be denied. One of these limitations is in the line of its use as an instrument in holding baggage upon the automobile.

A buckle is ever so much more conveni-

ent than a knot, no matter with what skill the latter may have been tied, and when the weather happens to be rainy the truth of this statement will be demonstrated. A strap may easily be unbuckled, and then, if it is desired to fasten it in any other place after changes have been made, it is very simple to punch a new hole in the strap at any place along its length and fasten it at that point. When baggage is carried in two or three suit cases which are tied together it is much more simple to have them bound by straps in place of ropes.

The leather of the strap should be well taken care of. This is a point which is often overlooked, and yet it is of considerable importance so far as economy is con-

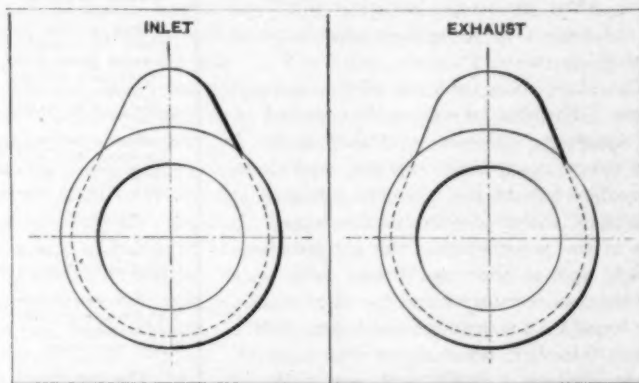


Fig. 3—The inlet cam has a shorter period than the exhaust

cerned. A little neat's foot or castor oil will keep it pliable.

WHEN A VALVE IS DISABLED.—It is not necessary to throw the hands up in despair if the valve on one of the cylinders of a multi-cylinder engine is disabled, as it is very well possible to get home on the other cylinders without a great amount of trouble if a few simple steps are taken. The inlet passage can be sealed so that it is impossible for the cylinder to draw in a charge of fuel. The exhaust valve should also be closed so that there will be no chance for the motor to suck dead particles into the cylinder.

A good method of sealing the valves is to open the joint where the gasket is inserted and putting a blank gasket in place. The cover is then bolted on, and the engine is ready to be operated in spite of the break. The motorist is able to get home in this way without the slightest fear that any damage will be done to the motor further than the valve breakdown.

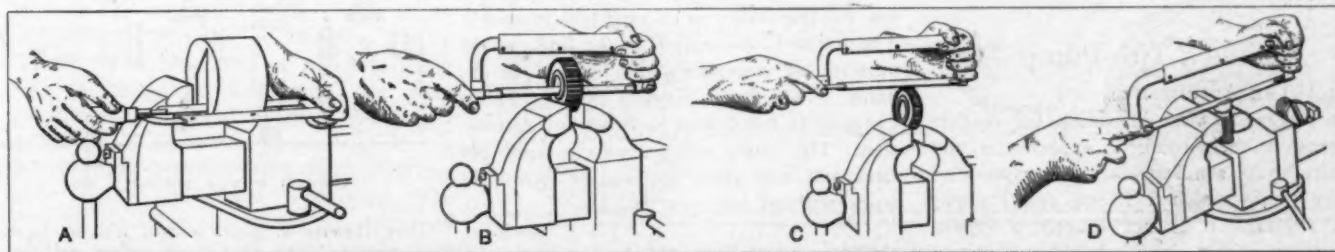


Fig. 4—Depicting four different operations which can be carried out by means of a hacksaw

My Best Automobile Repair

Some Quick Repairs Made in the Garage and on the Road

Used Leather Washers

Editor THE AUTOMOBILE:

In answer to your interesting invitation to automobilists to send in a description of their temporary or permanent repairs, I am sending you a sketch (Fig. 1), showing how I made a temporary road repair on my left front wheel after the cones had burst when descending a steep hill; and by the use of three leather washers went merrily on my way.

The illustration shows a section through a hub. The end of the axle A rested on ball bearings, which were located at B. P is a cotter pin through the nut, and C the cap. The hub of the wheel is indicated at H and is shown riveted to the wheel. It was at the point W that the accident happened, and at the time I had only been driving and owning a car for four weeks.

I went to a farmhouse and procured a piece of leather, which I cut into washers. These washers I fitted as shown at W. I took a great deal of care that this point was very copiously lubricated after I had fitted them as shown, and I am sure I could have ridden 100 miles without damage to the car in any way.

This repair took me 45 minutes, and considering the short length of time that I had been driving the car, the scheme was a great success, as I had no trouble in

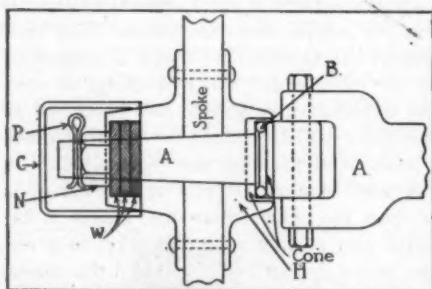


Fig. 1—A repair made by a reader when the cones had failed in descending a hill

reaching a point where a permanent repair could be made.

W. B. WHITE.

Zelienople, Pa.

Made a Tire Pump

Editor THE AUTOMOBILE:

In answer to your invitation for readers to send in their roadside experiences and repairs, I am sending you a description of a tire pump which a friend and I made, and although it is not exactly a repair, may interest you, since it is along the same line.

Temporary automobile repairs made by the driver or owner while on the road and permanent repairs made in the garage after the run is over, are interesting to all automobile owners.

It may be a spring leaf has broken; a shackle bolt or strap may break; a steering tie rod is bent; the car skids into a curb and bends a steering arm or the starting crank; a throttle or magneto connection breaks owing to vibration; a radiator leak is started by a stone or some other means; a leak in the gasoline tank is discovered; there is a small hole in the gasoline feed line; a brake facing may burn out; a brake connection breaks; a front axle gets slightly sprung; a clutch starts slipping, or any one of a thousand things may happen.

Every automobile owner is interested in knowing how repairs have been made, how long it took to make them, how much they cost, and by whom they were made.

We want you to write in simple language in a letter what repair of this nature you have had to make, how you made it, how long it took you and how much it cost.

You can make with your lead pencil one or two rough sketches indicating the broken or damaged part and showing how the repair was made.

The experience of each reader is interesting to every other reader. Analyze your past experiences and send in one or two of them.

Give your name and address, legibly written. If you do not want your name to appear, make use of a nom de plume.

Editor THE AUTOMOBILE.

The pump was made out of fittings which can be found in any plumbing or machine shop, and is so simple that it is merely a matter of screwing the parts together. It will do the work every bit as well as a pump which costs many dollars, and yet does not cost more than \$1.50. It fits into the sparkplug, and the engine does the work.

The pump is shown in Fig. 2 and consists of but nine pieces of material. Reading from the left to the right on the illustration the inlet is at I; A is a 3-8-inch check and forms the inlet piece. The T-piece P screws into the sparkplug and is of 1-2-inch standard gas pipe; upon the top of this piece is fitted a release cock C. Another check of the same size as the first screws into this at A, and fitted upon the top of this there is a pressure gauge G. The union U is inserted in the line for the purpose of connecting the hose H to the pump. The hose H leads directly to the tire and is fitted with a valve for connection. This pump will put pure air into the tires and will allow the engine to do the work without any trouble.

ED. C. BATES.

[The opinion of our readers on these contrivances and repairs is invited—EDITOR.]

Made a Rope Tire

Editor THE AUTOMOBILE:

Once while I was out on a rather rough road I blew out one of the rear tires. I had been going along very steadily at a moderate rate, when suddenly the tire blew out. I stopped the car and after examining the tire was at a loss as to how to proceed, as I did not wish to completely ruin a casing which was bad in only one spot. The road was very rough and I could not proceed on the flat tire without hopelessly cutting it up, so I took a piece of rope and by binding it on tightly after removing the casing from the rim I made a fair imitation of a tire, which took me to a garage without cutting either the rim or the casing.

I. H. P.

Detroit, Mich.

Broke Valve Spring

Editor THE AUTOMOBILE:

Once while running along a rough piece of road I happened to snap a valve spring. I have always attributed this incident to the roughness of the road, as the spring broke just as the car went into a deep rut. I was puzzled for a time, and was just going to throw the broken spring away in disgust, when a thought struck me that by inserting a washer between the two pieces of broken spring I might be able to make it work. I tried the scheme, and to my great delight found that the engine ran along as well with the double spring as it did before the accident.

As I was making the repair it struck me that there would have been another way of doing it, in case the spring did not work well when fixed in this manner. I thought of taking a piece of pipe and fitting it to the right length and then placing the washer on top of it, thus using only part of the spring. But as the other plan worked perfectly, I was amply satisfied. I think

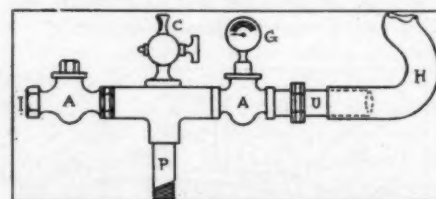


Fig. 2—A tire pump made from the simple fittings common to any plumber's shop

that this is a good lesson not to hastily throw away broken parts. H. W. W.
New Rochelle, N. Y.

My Ideal 1912 Automobile

Readers' Conceptions of What Next Year's Car Should Be

Curves for \$350

Editor THE AUTOMOBILE:

My idea of what a low-priced car should be will be found in the sketch enclosed (Fig. 1) and the added description.

Curves, all curves you will notice; late investigations have shown just how great are the losses in power on present models because of the want of curves. The windshield is not an addition, but forms a part of the machine. The door when swung open swings a part of the windshield with it to permit easy ingress to the car. There is room for three people, the operator sitting in the middle. The reason for this is that springs, to permit easy riding, must be very soft. Under these conditions, for the driver sitting to one side, when alone, is to have a lopsided machine; further, it is best because symmetrical, other things being equal.

Mudguards and top are put in position when needed, a further reduction in wind resistance; and, for another thing, there is no good reason to keep an umbrella over one's head because it may rain some day. The rear part of the car, all enclosed, provides space to pack spare tires, top and mudguards, and leaves the car more sightly.

A single-cylinder engine of 4 1-2 x 6, giving a maximum speed of 40 miles per hour, which I think is sufficient. Since two horses cannot run faster than one, the additional cylinders of a 4-cylinder engine add to complication, but not to power or better service. A single chain, enclosed against dust; planetary transmission controlled by two interconnected pedals (high and low), for the right foot to manipulate; for the left foot, the transmission brake, also the spark control, arranged in a curved slot and self-locking, should be installed. The low speeds (when hampered by traffic) are had by coasting, after the manner of motorcycles; the clutch is left in, and by throwing the left foot to the extreme left against a spring the fuel and spark are cut off, the car coasting.

The fuel control is located on a sector beneath the steering wheel. There is no carbureter, generator or injector, nor a throttle; I do not think it possible to devise an automatic carbureter (the very great number offered to the public alone will support my contention); therefore I rely on hand control, doing away with the most troublesome part altogether. The throttle serves to cut down the efficiency of the engine to a very great extent, and

speed control by spark advance and coasting I believe more desirable.

The entire upper part of the car is taken up by two tanks, one containing kerosene, 7 gallons for fuel, and 3 gallons of water. The other 1 1-2 gallons of gasoline for starting duty, and 1-2 gallon of oil. No pressure, only gravity required. High-tension ignition by battery and three plugs.

The radiators are hidden in the ventilators on each side, two finned tubes in each. The entire front of the car is open to admit the air freely. The car is 43 inches high, 53 inches at the windshield, and 64 inches with the canopy. Wheelbase, 80 inches; tread, 56 inches. The springs in this drawing are made to yield to all loads alike, and are not visible from the outside. I would not mention this, but it might be thought a defective drawing otherwise.

It should sell for not more than \$350.
New York City. P. G. TISMER.

Idea of \$1,500 Car

Editor THE AUTOMOBILE:

Seeing that you ask the readers of your magazine to send in a description of their ideal 1912 car, I am sending mine.

My 1912 car would have a 22-horsepower, 4-cylinder motor of the T-head type, cast en bloc. It should have a bore of 3 3-8 inches and 4 1-2-inch stroke. All valves should be enclosed in a dustproof cover. The ignition should be of the Bosch dual system. Lubrication of the splash type. The carbureter should be of the float-feed type, with an adjustment on the dash.

The clutch should be of the multiple-disc type and run in oil. It should be housed with the gearset, which should be placed amidships.

The transmission should be selective type, with three speeds forward and one reverse.

The drive should be by shaft with two universal joints, to a full floating rear axle. The front axle should be of the I-beam type with large steering knuckles.

The frame should be underslung and inswept in front, because the underslung frame makes the car safer and makes it possible to have the car look better. The insweep in front is to give the car a short turning radius. The springs should be long, flat, semi-elliptic, with shock absorbers on the front and rear.

Tires should be 36 x 4-inch front and rear, on Firestone demountable rims. Wheel base should be 106 inches.

Control levers should be on the right side; there should be a foot accelerator, and pedals should be standard. The steering wheel should be 18 inches in diameter.

The body should be of the two-passenger torpedo type, with the levers on the outside, and on the rear deck there should be placed the gasoline tank and the spare tire.

Equipment should consist of a top and cover, windshield, speedometer, three electric lamps, two headlights and gas tank, the headlights to be lit by a flash auto-lighter; electric horn, storage battery and one extra rim.

Price should be about \$1,500.

Walton, Pa.

X. Y. X.

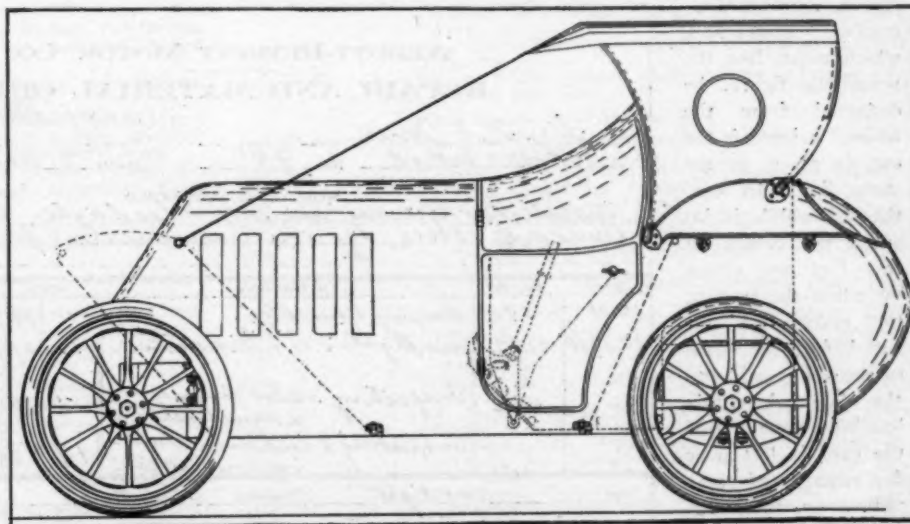


Fig. 1—Illustrating the body desired by a reader at a cost of \$350

Systematic Handling of Car Repairs

SYSTEM, while it may seem complicated at the time of its first introduction, soon proves that it makes things simpler than they were before it took effect. The gain in time and labor by the use of a suitable system is hardly to be overestimated; or is the use of the system itself exaggerated but in very rare instances. In the automobile repair business, this latest branch of the machine trade, system has but recently been introduced, but already have its advantages made themselves felt. Increased efficiency and consequently greater economy in material and labor are the consequences of a live system applied in these quarters.

In the following is given a description of the card index system used by one of the New York automobile selling concerns, the Abbott-Detroit Motor Company, 1670 Broadway, whose repair department is located a short distance from the store. This concern handles the Abbott-Detroit and Regal products in the Metropolitan district. The system used is simple, consisting of but two small cards, both of which are 5 by 8 inches. One is used on both sides.

The principal card, Figs. 1 and 3, is always kept at the office of the company and is printed on both sides, the front being illustrated in Fig. 3 and the rear in Fig. 1. On the front are entered, besides the make of the car, the buyer, the date of the sale and the name of the salesman who closed the transaction. In case of a used car being traded in the make and allowance made for it are stated, and the salesman's commission, which must, like the preceding figure, be deducted from the selling price of the car, is given on the same line. In case the automobile is insured the details of this fact are given, including the amount the machine is insured for, the price of the policy paid and the date when this has been done. Half the card is left over for remarks of some nature or other, as, for instance, what service the car sold is

COST RECORD				CAR NO. 947		MODEL B. Touring	
DATE	CAR AND EQUIPMENT	PRICE	DATE	LABOR	PRICE	TOTAL COST	
	CAR Abbott-Detroit	1500	9/15/11	Repair	57.25		
	TOP	25					
	SHIELD						
	SPEEDO METER	15					
	PREST-O TANK	45					
	OTHER EQUIPMENT:						
		1540					
	Less: Allow. on car.						
	Lawson	570					
	Commission	75					
		905					
	TOTAL						

Fig. 1—Record of a car, showing the total amount paid by the user of a car, including repairs

intended for, what territory it is to work in, or the like; or, if the car sold is a second-hand one, some confidential notes of interest to the buyer, but charily guarded by the vender, may find their place under that innocent heading Remarks.

The prices given on the reverse side of the card, Fig. 1, for some equipment bought with the car are, of course, fictitious, but they illustrate the manner of keeping a simple yet efficient account of every car sold. In the instance shown in the illustration the selling price is \$1,540.45, from which must be deducted the allowance for the old car traded in, which is \$570, as well as the salesman's commission on the deal, amounting to \$75. This leaves a net selling price of \$905.45.

The right-hand side of the card in Fig. 1 is reserved to contain the account of the car's history after its sale so far as the company is concerned in this matter. The first item has been entered on September 15, amounting to \$57.25 for repairs. If reference is made to Fig. 2, the repair and material order of the repair department of the company, it will be seen what items have gone to make up this \$57.25, as well as in what way the repair department is run.

A. G. Jones, buyer and owner of the car named on the sheet, had obviously met with a collision, as is indicated by the nature of the repairs ordered when he handed the automobile over to the company. He asked for a new steering knuckle to be fitted,

as well as for a pair of headlights to be installed on his car. This shows that some cards tell a good deal to the man who knows. Besides there is little doubt but that this was Mr. Jones' first car and that he tinkered with it as well as he could; hence the spoiled valve adjustments, while the disordered transmission gear tells of a tyro-like treatment of the car.

In the repair shop the work was speedily executed. Assuming the steering

ABBOTT-DETROIT MOTOR CO.						
REPAIR AND MATERIAL ORDER						
Name <u>Mr. A. G. Jones</u>				NEW YORK <u>Sept. 15, 1911</u>		
Vehicle <u>Abbott-Detroit</u>				No. <u>947</u>		
				Model <u>B. Touring</u>		
WORK TO BE PERFORMED						
<u>Install new steering knuckle + headlights, look over timing of valves, & go over transmission for noise</u>						
REG. NO.	PART NO.	MATERIAL USED	PRICE	EXTENSION	TOTAL	
1206	543	Steering knuckle	11	36		
3477/8	3182	Headlights (2) + brackets	16	67		
		Inspecting valve timing + adjust valves	6	29		
		Inspecting + repairing transmission gears	19	93		
Time <u>Eight</u> Hours			Workman <u>Wilson</u>		Price <u>3</u>	
			TOTALS		<u>\$57.25</u>	

Fig. 2—Repair and material order, giving detailed figures as to value of repair work done

HISTORY OF CAR			
TO WHOM SOLD	<i>Mr. A. G. Jones</i>	<i>N. Y.</i>	DATE <i>Jan 26-11</i> SALESMAN <i>Browning</i>
ALLOWANCE ON 2ND HAND CAR AND MAKE	<i>\$570</i>	<i>Albion - Detroit</i>	AMT. SALESMAN'S COM. <i>\$75</i>
DATE INSURED	AMT. INS. FOR	DATE INS. CANCELLED	TOTAL INS. COST
REMARKS			

Fig. 3—Sales record of car, containing exact data and remarks on transaction between automobile seller and buyer

knuckle to be the part No. 593 on the Model B touring car, then this number is entered under the heading Parts No., while 1206 is the registration number of the individual part fitted to the car and under which it was kept in the shop. Likewise headlights bear the part No. 3182, but the two particular lights fitted to Mr. Jones' car are numbered 3477 and 3478, respectively, the bracket being kept together with the lamp.

Remembering that charges on the sheet illustrated are not the same as those made in reality, let us assume that the steering knuckle is valued at \$11.36 and the two headlights at \$16.67, which prices are entered under the heading so marked. Under Extension, Fig. 2, on a repair sheet are generally charged the repairs of parts covered by a guarantee while it lasts, but made after it expires. Inspecting and adjusting the timing of valves were charged to Mr. Jones at \$6.29, while the work done on the change-speed gearset cost him \$19.93. Adding to these charges the wages paid to the workman who executed the job, the total bill of \$57.25 is arrived at.

The principal cards are kept in alphabetical order, while the repair cards, Fig. 2, one being filled out in every case of a repair job, may be either filed under the car numbers or together with the principal cards. In all cases, however, all the cards are kept

in the office after the repairs have been finished. The principal cards, Figs. 1 and 3, of course, never leave the office, while the blanks for the repair orders, Fig. 2, are kept in the shop, filled out by the superintendent of the repair department and then handed over to the office.

The particular system above described is used, with some minor variations, by many other concerns besides the one named and has been found to be effective enough by those who have introduced it.

CAREFUL SUPERVISION WILL SURELY ADD TO THE LIFE OF A CAR—It can never be said that a car is in good condition if it is allowed to leave the garage with the tire casings hacked to pieces or with deep cuts appearing on the surface. One of the greatest causes for the rapid deterioration of tires is the fact that water will work through the cuts and rot the fabric. This will eventually lead to a burst which could easily have been prevented with a little energy and foresight. In the points mentioned, as well as in all the other details which will present themselves at different times to the car owner and driver, a careful supervision will be rewarded by a prolongation of the life of the car and increased comfort in driving.

Calendar of Coming Events

Shows

- Jan. 2-11.....New York City, Hotel Astor, Importers' Salon.
- Jan. 6-13.....New York City, Madison Square Garden, Twelfth Annual Show, Pleasure Car Division, Automobile Board of Trade.
- Jan. 6-20.....New York City, Madison Square Garden, Annual Show, Motor and Accessory Manufacturers.
- Jan. 10-17.....New York City, Grand Central Palace, Twelfth Annual Show, National Association of Automobile Manufacturers; also Motor and Accessory Manufacturers.
- Jan. 15-20.....New York City, Madison Square Garden, Twelfth Annual Show, Commercial Division, Automobile Board of Trade.
- Jan. 22-28.....Providence, R. I., Providence State Armory, Rhode Island Licensed Automobile Dealers' Association, Automobile and Accessories Show.
- Jan. 27-Feb. 10....Chicago Coliseum, Eleventh Annual Automobile Show under the auspices of the National Association of Automobile Manufacturers. Pleasure cars, first week. Commercial vehicles, second week.
- Feb. 12-17.....Kansas City, Mo., Annual Show, Combined Association of Motor Car Dealers.
- Feb. 14-17.....Grand Rapids, Mich., Third Annual Show.
- Feb. 17-24.....Newark, N. J., Fifth Annual Automobile Show, New Jersey Automobile Exhibition Company, First Regiment Armory.
- Feb. 17-24.....Minneapolis, Minn., National Guard Armory and Coliseum, Annual Automobile Show, Minneapolis Automobile Show Association.
- Feb. 19-24.....Hartford, Conn., Annual Show, Automobile Club of Hartford, State Armory.
- Week Feb. 22....Cincinnati, O., Annual Show, Cincinnati Automobile Dealers' Association.
- March 2-9.....Boston, Mass., Tenth Annual Show, Boston Automobile Dealers' Association, Inc.

Meetings, Etc.

- Nov. 20-24.....Richmond, Va., First American Road Congress, under auspices of American Association for Highway Improvement.
- Nov. 22.....Road Users' Day, under direction of Touring Club of America.
- Jan. 18-20.....New York City, Annual Meeting of the Society of Automobile Engineers.
- Race Meets, Hill-Climbs, Etc.**
- Oct. 14 (to 26)....New York City, Start of the Annual Glidden Tour, en route for Jacksonville, Fla.
- Oct. 28.....Brooklyn, N. Y., Sealed Road Handicap for Schimpf Trophy, Long Island Automobile Club.
- Oct. 30.....Minneapolis, Minn., Hill Climb.
- Oct. 27-Nov. 3.....Chicago, Ill., Thousand-Mile Reliability Run, Chicago Motor Club.
- Oct. 30.....Harrisburg, Pa., Economy Run, Motor Club of Harrisburg.
- Oct. 31.....Shreveport, La., Track Races, Shreveport Automobile Club.
- Nov. 2-4.....Philadelphia Reliability Run, Quaker City Motor Club.
- Nov. 3.....Newark, N. J., Reliability Run, Newark Motor Club.
- Nov. 3.....Newark, N. J., 125-mile Automobile Endurance Run, Newark, Star.
- Nov. 3-4.....Columbia, S. C., Track Races, Automobile Club of Columbia.
- Nov. 4-6.....Los Angeles-Phoenix Road Race, Maricopa Auto Club.
- Nov. 9.....Phoenix, Ariz., Track Races, Maricopa Automobile Club.
- Nov. 9, 10, 12....San Antonio, Tex., Track Races, San Antonio Auto Club.
- Nov. 27.....Savannah, Ga., Vanderbilt Cup Race, Savannah Automobile Club.
- Nov. 30.....Los Angeles, Cal., Track Races, Motordrome.
- Nov. 30.....Savannah, Ga., Grand Prize Race, Savannah Automobile Club.
- Dec. 25-26.....Los Angeles, Cal., Track Races, Motordrome.
- Foreign**
- Nov. 3-11.....London, Eng., Olympia Show.

THE AUTOMOBILE

Vol. XXV

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No. 17

THE CLASS JOURNAL COMPANY

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CONDE NAST, Vice-President and General Manager

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 Review (weekly), May, 1902, Dealer and Repairman (monthly), October, 1903,
 and the Automobile Magazine (monthly), July, 1907.

Does It Boost Good Roads?

THE Glidden tour was taken South to boost the good roads cause. Does it boost the good roads movement and does it boost the automobile business to take seventy cars through a country in which there are over thirty streams that have to be forded? A tour went over this same route two years ago and these same fords were in existence then; they had to be forded then, but fortunately the weather was, and had been, dry at that time and the water was low. In two years there has been plenty of time to build bridges over some of these fords, in fact over all of them. It should not require an annual demonstration of running an automobile through water and mud, or having it towed by oxen or horses or mules, to impress on the populace the necessity of good roads. The question then arises, Is the present tour worth while from a good roads point of view? This remains to be seen. If immediate work is not begun bridging these fords and getting stone road material to the quagmire road sections then it is not worth while. What the section of road from Natural Bridge to Martinsville needs is immediate action rather than any more tours. The experiences of the past week with the Gliddenites is not a good advertisement to those Southern States. It is going to repel touring from that locality rather than encourage it. You can talk of enthusiasm and receptions, but if you have not roads automobiling is not worth while. The roads must be built. The people have known for several years just how bad these roads are when it rains. There is not any use of advertising the fact any further; it would have been better without this recent exploitation. Work is needed.

Much work has been done on these roads within the last three years, but still they are impassable when it comes to the worst. A chain is but the strength of its weakest link and a road is but as good as its worst spot. One old road builder defined a good road as being one that is good in bad weather. This is a good definition. Any dirt road can be good in fine weather; any clay road can be all right when there are not any rains. What

better roads could be desired than a dragged gumbo road in dry summer months? but with all of these dry-weather roads it is the same story of impassability in rainy periods. What America needs is the road that is good in bad weather. This is the kind of road that the East is building and this is the kind of road that must be built in the South, and in the Middle West gumbo and black-soil districts. It does not call for so-called automobile tours to let the people know this. This fact is already known. Tours are excellent things if some actual good is achieved as the tour goes along. It would pay the South to issue bonds and build a good stone road into the heart of its territory and then run a tour over it in the rainy season to demonstrate to the entire nation that it has good roads—roads that are good in bad weather.

* * *

Introducing Motor Trucks

IN these days, when many dealers in pleasure cars in different sections of the country are taking on a line of commercial cars, it is imperative that such dealers give some study to the task they have undertaken. They imagine that because they have been successful in selling pleasure cars they cannot but be successful with commercial vehicles. This does not necessarily follow. A commercial car is a business investment, whereas many pleasure cars are purchased for pleasure and outing purposes. The work of introducing the commercial car is a big task. In the first place the pleasure car dealer is ignorant of many factors entering into the situation. He is ignorant of the details of his truck construction; he is ignorant of the sphere of freight transportation within big cities; he is ignorant of the problem of commercial vehicle maintenance; he is ignorant of the troubles with the truck driver; he is ignorant of the ins and outs of the teamster situation in the city streets and depot yards; in a word, there are ten or more important factors that must be carefully studied before the pleasure car dealer is in a good position to take the truck matter sensibly in hand.

The truck is in many cases a good engineering job. The strength of the axles, springs and wheels is adequate; the body facilities meet with all requirements, and the design of motor or gearset is satisfactory for the present. These are but small items in the big problems of handling trucks. The first big problem is the selection of a proper system of trucks or delivery wagons for the needs of the buyer. It is folly to sell a mercantile store 3-ton trucks if the demands of their business are such that 1-ton trucks are best suited for the work. It is poor policy for the salesman to make a sale where he himself feels that his truck is not best suited for the work. It would be better in the long run not to make such sales. Some truck concerns have been conscientious in this matter and when they did not have types of trucks best suited to the needs of many of their customers they took the matter in hand and brought out new models of load-carrying capacity to suit the needs of the buyers in question. This is good truck policy and should be imitated by others. A dealer does not lose much in the long run when he looks after the interests of his buyers in this matter of truck selection. Some dealers may argue that it is not their sphere to say exactly what load capacity or type of truck is best adapted to the particular needs.

The dealer should know better than the buyer. If the dealer does not know then he should go out and study the problem. It is a certainty that the buyer does not know. The motor truck is an untried quantity to him and he will be apt to draw comparisons between it and his horse-drawn systems. Comparisons are dangerous in this field, because the buyer is ignorant of the abilities of the truck; he will underestimate certain qualities of it and may overestimate others. He cannot properly compare; he does not know enough about the trucks to make such comparisons. Here is where the field of the salesman comes in. The salesman must get out of the sales-room. His work is not one of talking mechanical constructions or elucidating on engineering problems; his is a duty of meeting conditions front to front. He must study the problems of freight delivery in the congested zones of cities and also in the suburban and semi-suburban districts. He must study the fields best filled by gasoline types of machines and he must also study the fields for which the electric is specially qualified. This is not any child's play; it is real labor—labor that

can only be accomplished by the sweat of the brow.

But the truck dealer has more problems to solve. He has to solve the question of the driver and other workers on the truck. The driver of the horse-drawn vehicle has set his pace to suit horse-drawn traffic; he is not working on a pace for motor-driven vehicles. Consequently the efficiency of the truck is held back by the horse-pace of the driver or other truck attendants. This field must be cleaned up. The horse driver, satisfied to sit and wait for two hours while a big load of small packages is being put on, is a stumbling block to truck introduction. Where small packages are involved a crate system is advisable. It is more expensive to keep a big truck idle for two hours during a slow loading process than to keep a horse-drawn truck idle during the same period. In two hours the motor truck can travel sixteen miles, but the horse team could not make over 4 or 6 miles. New facilities for loading and unloading must be worked up, otherwise the truck will be held back by the old horse-order of things. The driver must be speeded up; otherwise the efficiency of motor delivery will be held back.

Chairman Butler Killed on Glidden

TIFTON, GA., Oct. 25—(Special Telegram)—Samuel M. Butler, Chairman of the Contest Board of the American Automobile Association, was instantly killed this morning, and P. B. Walker, Referee of the Glidden Tour of 1911, and Mrs. Walker were seriously injured when the Cunningham pacemaking car in which the official party was riding broke a steering knuckle and plunged off the road into an adjoining field. Mr. Butler was caught under the tonneau when the crash came and was crushed to death in the twinkling of an eye. Referee Walker was badly shaken up and injured internally, while Mrs. Walker suffered a broken arm. Both are in a Tifton hospital.

At the time the accident occurred the car was going at about 35 miles per hour over a very good road. While the cause of the breakage is not definitely known, it was in all probability due to crystallization of the knuckle while the car was being subjected to the knocking and pounding on the terrible roads in Southern Virginia.

It was at first stated unofficially by THE AUTOMOBILE representative that owing to the distressing accident the tour would be abandoned at Tifton. This place, according to the route book of the Glidden tour is 41.9 miles from Cordele, the over-night stop. Later it was announced that the run would be continued on neutralized running time.

Samuel McKnight Butler was born Sept. 13, 1866, and was therefore 45 years old. He is survived by a widow and two children—a boy of 18 and a girl of 16. Their home is on Carlton street, Brooklyn, N. Y.

Mr. Butler was first assistant secretary and then secretary of the Automobile Club of America, holding the latter position at the time of the formation of the American Automobile Association, in the organization of which he was largely instrumental. He retained his position as Secretary of the A. C. A., until he assumed the chairmanship of the Contest

Board of the American Automobile Association in December, 1909. He was also at one time secretary of the Aero Club of America, and made quite a number of ascensions during his incumbency of the office. During the Spanish-American War, Mr. Butler served with credit in the Signal Corps of the United States Army.

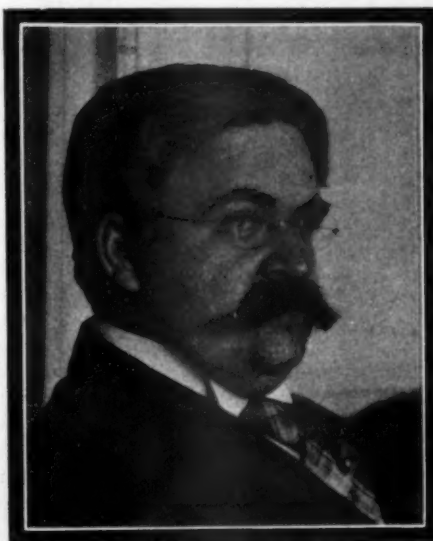
S. A. E. Headquarters in London

Interest in the approaching European tour of the Society of Automobile Engineers is growing. As previously announced the headquarters in London will be at the St. Ermin's Hotel, St. James' Park, London, S. W., near Westminster Abbey and the Houses of Parliament, and within a short walk of Whitehall, Pall Mall, Piccadilly, the Strand, and other leading thoroughfares of the English metropolis. The hotel is the headquarters in London of the Motor Union of Great Britain and Ireland.

The hotel management has officially quoted a price of from 6 shillings and 6 pence (\$1.75) per day up for each person according to size and position of room selected. This price includes lights, attendance and bath and table d'hôte breakfast. Rooms with private baths can be secured from 9 shillings (\$2.25) per day up per person without meals. Suites of two rooms and bath (without breakfast), can be had from 1 guinea (\$5.25) per day, upwards.

The St. Ermin's Hotel is connected by a private corridor to St. James' Park subway station, whence trains run direct to the automobile exhibition at Olympia. The Cunard Steamship Company has furnished a neat baggage label for the special use of the S. A. E. members.

The party which will sail on the *Mauretania* on November 1 will include forty-three persons. Sixteen members will join the party abroad. A group photograph will be taken before the start.



The late Samuel M. Butler.

Big Purses for Savannah Races

SAVANNAH, GA., Oct. 23—With the Thanksgiving race week more than a month away, interest in the approaching contests is at fever heat here. On Wednesday morning last the advance sale of box and grandstand seats for the two days' races was opened, and, in addition to 75 boxes, several hundred reserved seats in the stand were disposed of. Mayor George W. Tiedeman was accorded the privilege of buying the first box. The prices of tickets are the same as last year. Box seats for two days, \$50; grandstand seats for two days, \$3; general admission, \$1 each day. Parking spaces will cost \$25 or \$50, according to location.

The large number of reservations being filed at the local hotels indicates that the crowds that will assemble here during the last week of November will exceed in size even the record-breaking gatherings of former Grand Prix weeks.

The Lozier Company has announced its intention of entering two cars in each of the big races—the Grand Prix and the Vanderbilt—but has not as yet nominated the drivers.

The prize list is growing daily. Besides the Savannah Automobile Club's \$12,500 and the Remy Company's \$4,250, the Findeisen & Kropf Company, maker of the Rayfield carbureter, has hung up \$2,500, and the Bosch Magneto Company has come forward with cash offers aggregating \$1,550.

Garford Tourists on Santa Fé Trail

OMAHA, NEB., Oct. 21—With their trip of 4,200 miles almost half completed the tourists following the "Trail to Sunset" are spending to-day in this city and Monday morning they will turn southward to strike the Santa Fé trail at Kansas City, entering on that famous highway next Wednesday to follow it over 800 miles into the great Southwest.

The four Garford touring cars which are carrying the passengers as well as the "prairie schooner" which makes the fifth car of the automobile train and in which are the hand baggage and extra tire equipment have all made the trip so far in perfect condition.

The reception accorded the tourists in Iowa during the last four days of the week just closed surpassed anything they have so far experienced. From Davenport to Omaha they followed the "River to River Road," a smooth, straight highway on which the Hawkeye motorists have been laboring for months. The tourists crossed the Mississippi at Davenport Tuesday night.

Next Sunday's stop will be at Dodge City, Kan. As towns of any size and consequently hotels of the better class are far apart in that part of the country the longest single day's run of the whole tour will be made next Saturday. This will be from Hutchinson to Dodge City, a distance of approximately 154 miles, the stop for lunch probably being made at Larned.

When the tour reaches Hutchinson, Kan., next Friday afternoon, it will have covered exactly half of the 4,200 miles of its schedule.

Floral Parade Features Lincoln's German Day

LINCOLN, NEB., Oct. 23—One of the features of the German day celebration here was an automobile floral parade, in which fifty beautifully decorated automobiles took part. The parade brought a large number of people from out of the city, being something new here.

The first prize was won by Miller & Paine, the car being decorated in brown and red autumn leaves, four gilt pillars supporting a canopy, above which in a lotus flower was a little girl.

Mrs. Gillen and Mrs. Boney won second prize with a car decorated in roses and green leaves. Above the tonneau a rose arbor was erected, lattice work being covered with rose buds.

S. S. Shean took third with a simple gold and white car. H. E. Kooch, fourth, and O. E. Houck, fifth.

The Elks were awarded first prize in the lodge contest, the car being decorated with chrysanthemums on a white background, and having two elks at rest with a third standing.

The Eagles took second for lodges, with red, green and white decorations, eagles on brackets ahead of car, large white eagle above, with group of birds just over windshield.

To Fight Alabama's New Automobile Law

MONTGOMERY, ALA., Oct. 21—The new automobile law of Alabama will be attacked. The allegation is that the law is unconstitutional and the State may be forced to return the license fees collected from the owners of automobiles.

In the act there is a provision that the fee or license collected shall be in lieu of all other privilege licenses which may be exacted by any municipality or county, and the allegation is that this is in direct conflict with the Constitution of Alabama.

As the automobile law now is, the license fee is paid over to the State and a municipality or county cannot impose a tax or license, but the State divides up with the different municipalities and counties.

The flaw was picked out by R. G. Arrinton, an attorney of Montgomery, and also a well-known automobile enthusiast. It is probable that steps will be taken at once that will place the case before the Supreme Court so that a decision can be rendered before time to collect the auto tax for next year.

The legality of the law affects many owners of automobiles in Alabama. At the present time a tax is being collected by the Secretary of State and each machine is numbered consecutively.

Velie Officials Entertain Dealers

MOLINE, ILL., Oct. 23—Officials of the Velie Motor Vehicle Company were hosts last week to forty-five representatives of the Velie throughout the country who were called into the home plant to inspect 1912 models and have improvements and new conditions pointed out. The visiting dealers were addressed by Chief Engineer C. B. Rose, Sales Manager C. H. Lloyd and Assistant Sales Manager C. P. Hatter. The following officers and employees of the Velie plant entertained the visitors: President, W. L. Velie; secretary, L. M. Fuller; chief engineer, C. B. Rose; sales manager, C. H. Lloyd; assistant sales manager, C. P. Hatter; Henry T. Wheelock, in charge of truck sales; Messrs. Bryant Thompson, Brink, Soner, Ramsay, Kennedy, Froelich and Ward.

The following are the dealers registered: Messrs. Taylor, Memphis, Tenn.; Scouten, Nashville; Elliott, Nashville; Banta, Spokane; Duc Luce, Chicago; Beharall, Lowell, Mass.; Wylie, Kansas City; Johnson, Essex, Vt.; Bornstein, Boston; Lane, Cormley and Steinert, Pittsburgh; Morse, Knoxville; Glynn, San Francisco; Benton, Los Angeles; Dixon, Buffalo; Davis David, Philadelphia; Garland, New York City; Kerr, Syracuse, N. Y.; Schmidt, Harrisburg, Pa.; Varrell, Gloversville, N. Y.; Burns, St. Louis; Wetherby, Syracuse; Reed, Wichita, Kan.; Marrill, Louisville, Ky.; Lindsay, Omaha; Snell, Attleboro, Mass.; Geer, Minn.; Smith, Hibbing, Minn.; Titus, Miles City, Mont.; Harrington, Sleighton; Roller, St. Paul; Highshoe, McLean; Hogan, Alvedo, Ill.; Heiserman, Albia, Ia.; Ketchan, Farmington; Kelly, Farmington; Minturn, Winterset, Ia.; De Jarnette, Omaha; Randall, Oklahoma City.

News of the Week in Detroit

DETROIT, MICH., Oct. 23—The activity that prevailed in Detroit factories earlier in the month continues, with no sign of abatement. Many of the plants are working both day and night shifts and still are behind orders in some instances. So there is every reason to believe that the business for the month will meet all expectations.

The Chalmers Motor Company is planning the erection of a new warehouse at its plant in the very near future. It will be so arranged that cars can be loaded for shipment directly from the warehouse. The plant is running full capacity.

The Chalmers annual technical convention began last week, with a good attendance. The convention will be held in three divisions, the second division convening to-day and the third, Oct. 30. Those in attendance last week included technical men from the Eastern cities and from Michigan, Ohio and Indiana. Nearly an entire day was spent in disassembling and studying the chassis of the Chalmers "36." Talks were given by George W. Dunham, vice-president and consulting engineer of the company; A. B. Hanson and R. O. Gill, of the service division, and C. C. Cross, head of the inspection department. Particular attention was given to the Chalmers standardization methods. These conventions are for the benefit of representatives of the service divisions of Chalmers dealers and Chalmers road men.

Three delegations representing outside motor car manufacturers, including managers and their engineering staffs, were among the visitors to the Cadillac plant last week. They came for the express purpose of studying the Cadillac electric starting and lighting process. The Metzger Motor Car Company entertained a dozen or more dealers from various parts of the country and State during the week.

The chief topic of discussion in local motor car circles the past week has been the report of the tax commission appointed by Gov. Osborn to make an inquiry into the tax question. The report, which was made public a few days ago, confirms earlier statements to the effect that the motor industry would come in for a good deal of consideration. That an attempt will be made by the State to force the manufacturers to pay more taxes was made clear by the governor in an address before the members of the Detroit Board of Commerce at a luncheon in the Hotel Cadillac last Thursday, when he said:

"There is to my mind no good reason why those corporations of Michigan which bear inadequately their burden of taxation should not be brought to a point of correction. The automobile industry in Detroit and Michigan is one that should be aided and encouraged in every reasonable manner. But there is not one automobile manufacturer who would care to be placed in the charitable class, or who would contend that \$1.40 per thousand is enough taxation, when the railroads are paying \$20.55; residences in cities and villages, \$14.50; farms, \$10; electric railroads, power, heat, light and gas companies, \$7, and manufacturing corporations, \$5.30. This inequality and unfairness is intolerable."

The figures quoted by the governor were taken from the tax commission's report. With reference to the automobile industry in Michigan, the commission shows that manufacturers of motor cars and automobile parts in the State reported a total net income of \$14,508,529, net income, exclusive of all interest, \$13,428,053; capital stock, \$29,192,079; indebtedness, \$47,239,044; taxes paid in 1909, \$185,000. The report goes on to say:

"The net income, exclusive of interest, capitalized at 10 per cent., gives the value of the stockholders' equities as \$134,280,530 which, divided into the taxes paid for these industries, gave a rate of \$1.40 on the thousand. If we add the indebtedness, the value of the corporate business is \$181,000,000, which paid taxes

at the rate of \$1.05 per thousand, or 1.14 per cent. of the net income.

"A careful perusal of the methods employed and the results produced in these figures demonstrates the existence in Michigan of a large amount of property grossly undertaxed, as compared with other property."

In another part of its report, the commission says:

"It will be shown that too much attention has been centered on the taxation of farm property and railroads, while the automobile manufacturing industry seems to have been sadly neglected, as viewed from a taxation standpoint."

In response to many requests from various interests, the commission has arranged for public hearings on their report. These will begin at Lansing in a day or two, and it is expected that the motor car makers will be well represented.

In addition to the condemnation proceedings instituted in the recorder's court a few days ago, the Herreshoff Motor Company, which is building a factory on Woodward avenue, in a fashionable residence neighborhood, now has an injunction suit on its hands. Judge Donovan, of the Wayne circuit court, has issued an order, on the petition of several residents of the neighborhood, directing the company to show cause why an injunction should not issue.

The 3-ton Packard truck, which was brought back to Detroit a few days ago after its transcontinental run from New York to San Francisco, leaves to-day on an exhibition tour that will cover a period of several weeks. It goes first to Toledo, O. Other cities to be visited are Cleveland, Rochester, Syracuse, Albany, Boston, Providence, Hartford, Bridgeport and New York.

The United Motor Detroit Company is well pleased with the showing made by the Maxwell Messenger in its 120-hour non-stop run, which ended last Tuesday. The little 16-horsepower car covered a total of 2,060 miles, consumed 91 gallons of gasoline, an average of 22 1-2 miles per gallon; 82 pints of oil and two quarts of water.

Weather permitting, the Wolverine Automobile Club will hold the second of its under-sealed-orders sociability runs next Sunday. The Detroit *Saturday Night* offers a silver trophy to the member coming nearest to the time of the pathfinding car. The club is making arrangements for a big social evening Nov. 4. It is also planning to get out a club publication. The first number will make its appearance early next month.

Tire Men Gather in Metropolis

An important gathering of tire men was held at the Hotel Astor in New York last Sunday, when the United States Tire Company called together all its branch managers and salesmen in the Central and Eastern Districts to discuss trade policies for the coming year. About 150 representatives of the company were present, among whom were: J. M. Gilbert, general manager; J. D. Anderson, general sales manager; A. I. Philip, manager central district; O. S. Tweedy, manager eastern district, and William MacMahon, chairman of the factory committee.

The meeting was presided over by Mr. Anderson. General Manager Gilbert made the principal address. He outlined in detail the plans of the organization for taking care of the country's demands during the coming year. Addresses also were made by Messrs. Philip, Tweedy, Anderson and MacMahon.

Following the business session a luncheon was served and the Central District managers and salesmen made a hasty getaway for their homes.

This was the first trade-policy meeting held by the United States Tire Company since its organization.



CLEVELAND, O.—Interest in the Glidden Tour, ending to-day at Jacksonville, Fla., recalls the first endurance contest ever held in this country. This event took place ten years ago. The start was from New York City and the objective point was to have been Buffalo, where the Pan-American Exposition was in progress, but the assassination of President McKinley caused the management to call off the run at Rochester. Among the clean-score contestants up to this point were four white steamers, the only cars entered from the White factory.

RICHMOND, IND.—John N. Taylor, of Columbia, Mo., has been appointed the local Westcott representative for the 1912 season.

PORTLAND, ORE.—F. W. Vogler, president of the Northwest Auto Company, has placed an agency for the Reo in Myrtle Point, Ore. J. C. Walling will handle the car there.

COLUMBUS, O.—The Perry Auto Top Company has opened a plant for the manufacture of automobile tops and other accessories at Naghten and Lazell streets, Columbus, O.

PITTSBURG, PA.—The Citizens' Automobile Company, of Huntington, W. Va., and Charles E. Ward, of Charleston, W. Va., have signed up as Franklin sub-dealers for their territory.

TACOMA, WASH.—For two years connected with the factory branch of the Ford Motor Car Company, at Seattle, W. C. Baldwin this week takes charge of the local agency for Ford cars.

COLUMBUS, O.—S. W. Schott, of Westerville, O., has taken the 1912 agency for the Brush for Columbus and Central Ohio. The principal salesroom is located in Westerville with a branch at Fourth and Chestnut streets, Columbus, O.

CHAMBERSBURG, PA.—The City Council has voted to buy a \$5,500 La France automobile chemical engine and hose wagon for the Friendship Fire Company. It is to be delivered within 30 days. The machine is 70 horsepower with a speed of 50 miles per hour.

MILWAUKEE, WIS.—The fourth annual motor show, the second under the auspices of the Milwaukee Automobile Dealers' Association, will be held in the Auditorium from January 20 to 26. Bard J. Ruddle, who managed the 1911 show for the association, has again been placed in charge and will handle the entire exposition.

MILWAUKEE, WIS.—C. R. Dashiell, manager of the Milwaukee and Wisconsin branch of the Studebaker Automobile Company, has been transferred to Chicago, where he will have charge of retail sales in the Chicago territory. The present headquarters of the local branch at Milwaukee and Mason streets will be moved to Nos. 414-416 Milwaukee street in a short time.

NORWALK, O.—The bankruptcy proceedings of the Norwalk Motor Car Co., transferred a couple of weeks ago from Referee Ben B. Wickham, of this city, to Referee Seager, of Fremont, on the representation that there was considerable feeling over the affair, will be conducted before Referee Wickham, Judge Killets, of the federal court at Toledo having ordered the matter back to Referee Wickham.

SYRACUSE, N. Y.—The annual Watson Cup run, under the auspices of the Automobile Club of Syracuse, suffered two more postponements this week because of bad weather. Shifted from Wednesday till Saturday, it had again to be put over and is now scheduled for Wednesday, Oct. 25. Silverman & Grody, agents in Syracuse for the Ford cars, have offered an additional silver cup for the woman driver of a Ford car coming nearest the secret time.

NEW YORK CITY.—In appreciation of his excellent work in the upbuilding of the Ajax-Grieb Rubber Company, the directors and department heads of that concern at a testimonial dinner at Rector's, presented to Horace DeLisser, formerly president of the company, a handsome gold stop watch. The presentation was made by President William G. Grieb. Among the others in attendance, besides the guest of honor, were Benj. Briscoe, Frank Briscoe, R. A. Pattison, J. C. Matlack, R. DeLisser, Louis P. Destribats, Harold W. Stimpson, and Samuel E. A. Stern.

MADISON, WIS.—The Spooner-McConnell Automobile Company has been organized here by Charles F. Spooner, formerly interested in the Hokanson Auto Company, and George K. McConnell, who formerly represented the Reo in Madison. The company has leased part of the Wisconsin Wagon Company's plant and will handle the KisselKar and Oakland. A complete repair shop and a live and dead storage will be conducted. E. C. Conover has been appointed sales manager. He formerly was with the Chicago branch of the Packard and later with the Rambler branch in Chicago.

LOS ANGELES, CAL.—L. J. Ollier, manager of the local branch of the Studebaker Corporation, has completed negotiations with the William Mead Company for a large service building in that city. The new building has more than 30,000 square feet of service space located on East Seventh street, which is an ideal location on the main traveled automobile road to interior California points. A spur track will be constructed by the Southern Pacific Company to the new building, which will greatly facilitate the handling of carload shipments. The Lord Motor Car Company will continue to act as retail distributors of Studebaker and E-M-F 30 and Flanders cars in Los Angeles and vicinity.

FRANKLIN, PA.—The King Automobile Company has taken the agency for the line of 1912 Kline Kars.

COLUMBUS, O.—The Kaiser Motor Car Co., 39 West Main street, has taken the agency for the Hupmobile for Franklin county for 1912.

CIRCLEVILLE, O.—Gus Schiear, formerly connected with the Charles Schiear Motor Car Company, has taken the agency for the Hupmobile in Circleville and surrounding country.

CUMBERLAND, MD.—The Pullman Garage has taken the agency for the line of 1912 Pullman cars. H. T. Beck, manager, has just completed the erection of a large new modern garage.

WILMINGTON, DEL.—William B. Austin, proprietor of the Pennsylvania Avenue Garage, has taken the local agency for the Locomobile. He has the State and the Peninsula for his territory.

COLTON, WASH.—The Inland Implement Company has recently signed a contract to handle the Overland cars in this vicinity the coming season, being a sub-agent of H. L. Olive & Co., of Spokane.

BOSTON, MASS.—The Hupp Corporation has opened salesrooms at 563 Boylston street, Copley Square district. W. B. Doan, formerly manager of the Olds Motor Works branch in Detroit, is in charge of it.

HARRISBURG, PA.—According to the latest estimate announced by the automobile bureau of the Pennsylvania State Highway Department, 45,500 tags have been issued to owners of automobiles in this state up to the present time.

BOSTON, MASS.—The agency for the Mitchell line, formerly handled by W. M. Jenkins & Co., has been placed with Lawrence & Stanley, a new firm just organized to handle it. Salesrooms have been secured on Massachusetts avenue near Boylston street.

COLUMBUS, O.—The Warren-Southwick Car Company, Cleveland avenue and Grove street, Columbus, O., has taken the 1912 agency for the Cutting, covering central

Ohio. The company has also closed up for the Garford truck and the Geneva delivery wagon.

BOSTON, MASS.—The Boston branch of the Buick had a motor show of its own in the motor mart beginning Monday and it is planned to last a week and probably longer if conditions warrant it. There was a good attendance at the salesrooms during the opening days.

BOSTON, MASS.—Manager Chase Langmaid, of the Autocar branch, has established a school for motor truck drivers and it is in charge of Charles E. Way. Regular sessions are being held and at the first one held a few evenings ago more than 50 drivers were present.

HARRISBURG, PA.—State Highway Commissioner E. M. Bigelow is securing reports from the engineering and surveying corps of his department on the number of sign posts that will be required to take care of the routes of the main highways of the State. The data is being secured preparatory to awarding contracts for sign posts.

BALTIMORE, MD.—This city will no longer be hampered by tollgates, the last one—that on the Reisterstown Turnpike—having been purchased by the State of Maryland. The directors of the Reisterstown Turnpike Company, owners of the tollgate, decided at a meeting this week to accept the offer of \$70,000 made by the Good Roads Commission for the rights, titles and interests of the turnpike in the city.

PHILADELPHIA, PA.—The United States Motor Tire Company, No. 846 North Broad street, has acquired by purchase the stock and business of the William Sanford Company, occupying the adjoining building. The Sanford Company handled the Bosch magneto and Sampson tires for Philadelphia and adjacent territory. Upon the completion of necessary alterations both businesses will be conducted in the enlarged store. T. F. Fealy is manager of the United States Motor Tire Company.

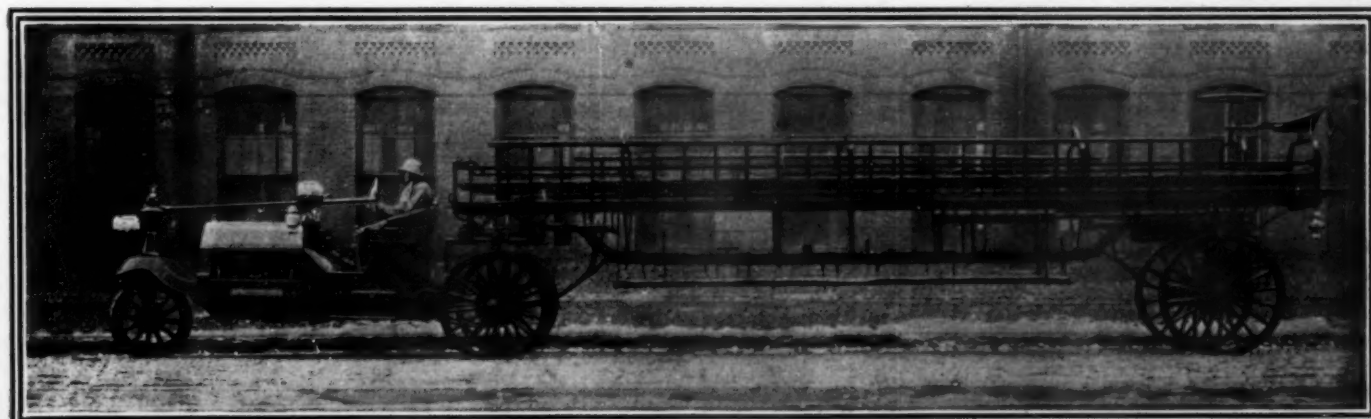
CHICAGO—The Fall match for the Myers trophy between the Chicago Automobile Club and the Chicago Athletic Association having failed to materialize, the former or-

ganization has decided to hold a team match between the amateur and trade members of the club. It is to be a 2-day run to Waukesha, Wis., and return, and to take place November 9 and 10. Allen S. Ray will captain the amateurs and the trade forces will be led by Thomas J. Hay. The penalties are to be for work and time.

BOSTON, MASS.—The New England dealers who handle the Everitt car had a banquet at the Hotel Lenox last week which was arranged by the J. S. Harrington Company, which has the Boston, Worcester and Providence agencies. There were 48 agents present and following the dinner there were addresses by Sales Manager Wallace C. Hood from the factory and J. Edmund Thompson, of Worcester, the first New Englander to purchase a six-cylinder Everitt. President Barney F. Everitt sent a telegram of good wishes.

INDIANAPOLIS, IND.—A number of changes have taken place recently in local trade circles. Oren Chilson, formerly with a Marion, Ind., company, is now with the sales department of the Conduit Automobile Co. G. W. Chapman, who traveled for the United States Tire Co., is with the Indianapolis branch of the Fisk Rubber Tire Co. Charles Kollenstetter, who has been in local territory for the Stromberg Devices Co., has left to take charge of the Chicago territory for the company. James Morrow, formerly with the Diamond Tire Co., has filled the vacancy caused by Kollenstetter's transfer.

HARRISBURG, PA.—The Motor Club of Harrisburg will hold an economy contest on Monday, November 13, covering a distance of 90 miles. There will be two classes of cars, one for private owners and the other for dealers and manufacturers. In the owners' class only the gasoline consumption will be considered, but in the dealers' and manufacturers' class the consumption of oil will also count a prominent part. Each car will be compelled to carry its full quota of passengers of an average weight of 125 pounds. The route of the contest will lead through Dillsburg, Abbotstown, York, Wrightsville, Columbia, Marietta and Mt. Joy.



Knox Company demonstrates how old fire apparatus may be effectively modernized by the use of the Martin tractor



Universal 3-ton truck in the service of the Concrete Lumber Co., Detroit, Mich.

SAN FRANCISCO.—The Velie cars will hereafter be handled in Northern California by the Auto Sales Company.

SAN FRANCISCO.—The Olds Motor Works, of Lansing, Mich., has established a branch here, with D. L. Whitford as manager.

SAN FRANCISCO.—The Northern California agency for the Selden car has been placed with the Middleton Motor Car Company, of this city.

SAN FRANCISCO.—The H. O. Harrison Company, now California distributor of the Peerless and Everitt cars, has taken the agency for the Waverley Electric.

FRANKLIN, IND.—It is announced that the Whitesides Motor Truck Company, located here, has leased the buildings formerly occupied by the Safety Shredder Company at Newcastle and will move to that city.

SAN FRANCISCO.—Geo. A. Troutt, representing the Lion Motor Car Company, of Detroit, has placed the Northern California agency for the Lion with the Reliance Automobile Company, which also handles the Knox and Detroit electric lines.

SAN FRANCISCO.—G. L. Wands has been appointed director of agencies for the Haynes Auto Sales Company, Coast distributor of the Haynes and Krit cars. Chas. Corcoran takes his place as sales manager of the local Haynes branch.

SAN FRANCISCO.—The Reo Pacific Company has been appointed distributor of the Premier cars in Northern California and Nevada. Norman de Vaux, manager of the company, also takes over the Reo wholesale business in Southern California.

INDIANAPOLIS, IND.—The Central Automobile Company, North Capitol avenue, has taken the agency for the line of electric trucks manufactured by the Walker Vehicle Company, Chicago. The Indianapolis company will distribute the Walker throughout Indiana.

WILMINGTON, DEL.—The first automobile ambulance in the State has been placed in service here. It is connected with the Fire Department and is operated by No. 4 Company. The car comprises a Mitchell chassis and a body of the regulation pattern, built by the Bowe Carriage Co., of this city.

DETROIT, MICH.—Hugh Chalmers, head of the Chalmers Motor Co., will be one of the speakers for Road Users' day, which will be one of the features of the first American Road Congress, to be held in Richmond, Va., Nov. 20-24. His topic will be "The Forecast of the Automobile Industry."

SAN FRANCISCO.—The National agency for Northern California has been annexed by the Howard Automobile Company, Coast distributor of the Buick cars. Carl Christensen, hitherto representative of the National, joins the Howard forces and will remain in charge of the National end of the establishment.

SAN FRANCISCO.—The Ford Motor Company, of Detroit, has established a branch house here, to handle Northern California, Nevada and the Hawaiian Islands. The new Ford headquarters will be in a spacious building at Van Ness avenue and Fell street. The branch will be in charge of J. B. Lund, who has been assistant manager of the Ford branch in Seattle.

KANSAS CITY, Mo.—At the largest and most enthusiastic meeting that has ever been held the Kansas City Motor Car Dealers' Combined Associations decided to hold a motor car show February 12 to 17.

DETROIT, MICH.—M. H. Snyder, of Bozeman, Mont., has been appointed sales manager for the Day Utility Car Co. Mr. Snyder has been a dealer in Bozeman for several years and came here last week to secure the agency for the Day car in the State of Montana.

DETROIT, MICH.—The General Motors Co. has found it necessary to seek larger quarters for its general offices and will move from its present location at No. 127 Woodward avenue to the new Boyer-Campbell Building as soon as the latter is completed, occupying practically the whole building with the exception of the ground floor.

SAN FRANCISCO.—The local branch of the American Motors Company has been incorporated as the American Motors California Company, with J. I. Handley as president. W. Scott Heywood, a wealthy oil man of California, becomes vice-president and general manager. Marc Bunnell, until now manager of the branch, becomes district sales manager for the Pacific Coast and inter-mountain States.

NEW YORK CITY.—H. F. Donaldson has sold his interest in *The Commercial Vehicle* to the United Publishers Corporation, and has tendered his resignation as president and editor of that publication. Mr. Donaldson intends to join the S. A. E. party sailing for England November 1, and while abroad will investigate commercial vehicle conditions in Europe, returning in time for the New York shows in January.

SOUTH BEND, IND.—The Fisher Manufacturing Company, of South Bend, has been reorganized with capital stock of \$100,000, and will locate in Toledo, Ohio. The new company will be known as the Electric Auto-Lite Company with A. W. Fisher, of South Bend, president; S. L. Kelly, South Bend, vice-president and general manager; C. O. Miniger, Toledo, secretary and treasurer. The capital stock has been fully paid in and the company expects to move to Toledo immediately.

TOLEDO, OHIO.—Among the "fans" who witnessed the world's championship series between the New York Giants and Philadelphia Athletics were the Overland baseball team, composed of men employed in the Willys-Overland plant at Toledo. During the summer a Toledo newspaper conducted a contest for the most popular amateur and semi-professional baseball team in Northern Ohio, and the Overland organization received an overwhelming majority by popular vote. In addition to winning the trip East to witness the series, the Overland team received a cash prize of \$500.

DETROIT, MICH.—The Warren Motor Co., of this city, has been elected a member of the Automobile Board of Trade.

INDIANAPOLIS, IND.—The Fisher-Gibson Company has become the Indiana distributor for the Stearns. This company also represents the Overland, Empire, Stoddard Dayton, Alco and Baker.

NEW YORK CITY—At the regular monthly meeting of the Motor Truck Club on Wednesday, October 25, at 6 p. m., at the Hotel Empire, Broadway and 63rd street, there was an informal dinner which was followed by the regular papers, discussion and business.

MISHAWAKA, IND.—Frank Dean, formerly connected with the Thomas Flyer Company, of Buffalo, N. Y., has been appointed superintendent of the Simplex Motor Car Company, to succeed Joseph Holloway, who has resigned.

DES MOINES, IOWA—The Herring Motor Co., of this city, Iowa agent for the Ford, this week established an agency at Waterloo. The company will be known as the Repass Automobile Company and will handle Fords exclusively.

MONTGOMERY, ALA.—The Chalmers Agency has one of the best exhibits in the machinery hall of the Alabama Exposition now in progress here. It is the only local agency with a large exhibit. There are five cars shown.

NEW YORK CITY—Mr. Chas. A. Ackerman has severed his connection with the F. B. Stearns Company and has accepted a position in the sales department of S. J. Wise & Company, Eastern distributors of the Valveless Amplex car.

DES MOINES, IOWA—Frank Gotch, the world's champion heavyweight wrestler, has closed contracts with the Studebaker Corporation, to handle E-M-F and Flanders cars in Humboldt, Iowa. He also represents the Mitchell there.

INDIANAPOLIS, IND.—From January 1 to October 20 there were 2,623 motor vehicle licenses issued by the city of Indianapolis. During all of 1910 there were 1,850 licenses issued. City Controller Wallace has recommended a new ordinance amending the license fees, fixing the license for runabouts at \$3, for touring cars \$7 and for trucks \$10. All motor vehicles, regardless of size, now pay but \$3 a year.

DETROIT, MICH.—The New Departure Manufacturing Company has installed at its Western Branch, 1016 Ford Building, a measuring machine which is available without cost to the trade in general for close measuring. The machine positively indicates variations of 1-40 of .001 inch, and is a duplicate of the machine used by the company at its factory in Bristol, Conn., in accurately manufacturing gauges used for inspecting New Departure ball bearings.



Effective way in which a Texas motor truck dealer advertised his vehicles

Automobile Incorporations

AUTOMOBILES AND PARTS

BUFFALO, N. Y.—Queen City Electric Automobile Co.; capital, \$50,000; to make automobiles. Incorporators: A. C. Towne, C. S. Chamberlain, Moses T. Day.

BUTLER, PA.—Carter Motor Car Corporation; capital, \$50,000; to build motor cars.

CHESTERTOWN, MD.—Chestertown Automobile & Garage Co.; capital, \$25,000. Incorporators: H. Berge Simmons, A. Parks Rasin, L. Bates Russell.

CHICAGO, ILL.—Karbeck Motors Co.; capital, \$50,000; to build automobile engines. Incorporators: E. E. Hartman, A. T. Ewing.

CLEVELAND, OHIO.—Richardson-Neighbors Motor Co.; capital, \$5,000; to sell automobiles. Incorporators: F. E. Richardson, H. F. Neighbors, W. J. Dawley.

DAYTON, OHIO.—Dayton & Troy Automobile Co.; capital, \$10,000. Incorporators: C. E. Emerick, S. S. Faulkner, W. J. Sherer, S. B. Franklin, D. B. Sherer.

DAYTON, OHIO.—Marion Automobile Co.; capital, \$5,000; to sell automobiles as well as accessories. Incorporators: Leslie B. Eaton, Frank W. Penebaker, O. G. Stout, William C. Frizzell, C. L. G. Breene.

DAYTON, OHIO.—Ohio Mercer Sales Co.; capital, \$20,000; to buy and sell automobiles and accessories. Incorporators: Geo. A. Ware, M. E. State, F. P. Chamberlin, B. L. Hull, H. I. Robeson.

LANSING, MICH.—Mechanics Motor Car Co.; capital, \$10,000; to build automobiles.

LEWISBURG, W. VA.—Greenbricr Motor Co.; capital, \$10,000; to sell automobiles, etc. Incorporators: Mason Bell, F. E. Campbell, F. M. Arbuckle, K. M. Snyder, W. E. Hines.

MEMPHIS, TENN.—Noble S. Bruce Auto Co.; capital increased from \$10,000 to \$50,000. Incorporators: J. W. Bruce, C. E. Belote, Noble S. Bruce, John S. Parker, C. H. Thomas.

MEMPHIS, TENN.—Chickasaw Motor Car Co.; capital, \$25,000; to sell automobiles and conduct a repair business.

MONTCLAIR, N. J.—Frank A. Reeve Co.; capital, \$50,000; to build motor cars. Incorporators: Frank A. Reeve, John A. Butler, David H. Slayback.

NEW YORK CITY.—Colonial Sales Co.; capital, \$10,000; to deal in automobiles and accessories. Incorporators: Everett A. Levy, Louis V. Hansen, Benj. H. Stern.

NEWARK, N. J.—Merchants Motor Car Co.; capital, \$500,000; to build automobiles.

PHILADELPHIA, PA.—Cavac Motor Car Co.; capital, \$500,000; to build automobiles.

TOLEDO, OHIO.—Ford Bros. Auto Sales Co.; to deal in second-hand automobiles. Incorporators: Guy R. Ford, J. R. Ford.

WILMINGTON, DEL.—Union Motor Car Co.; capital, \$25,000; to build automobiles.

AUTOMOBILE GARAGES; ACCESSORIES

CAMDEN, N. J.—International Airless Tire Co.; capital, \$100,000; to make automobile tires. Incorporators: J. H. Nixon, I. Zimmerman, T. B. Hall.

CLEVELAND, OHIO.—Start-O Co.; capital, \$10,000; to make and sell starters and other accessories. Incorporators: Henry P. Beckenbach, Hubert B. Fuller, E. L. Stoiber, William E. S. Fitzgerald, R. M. Hard.

CLEVELAND, OHIO.—Moore & Rigby Garage and Sales Co.; capital, \$10,000; to conduct a garage and repair business. Incorporators: W. H. Moore, John Moore, Albert V. Rigby, C. F. Magee, C. E. Alden.

DETROIT, MICH.—K. & H. Lamp Co.; capital, \$12,000; to make and sell automobile lamps. Incorporators: Paul Krastin, John H. Hart.

FLOYD, VA.—American Brake Lever Co.; capital, \$15,000; to manufacture brakes of all kinds. Incorporators: V. M. Sowder, R. F. Tompkins, S. R. Brame, J. M. Peterman.

HIGHMOUNT, N. Y.—Stein Tire & Rubber Co.; capital, \$10,000; to make tire and rubber goods. Incorporators: Jay N. Emley, Clarence E. Mundy, John N. Scelsa.

JERSEY CITY, N. J.—Seventh Avenue Garage; capital, \$25,000; to operate a garage business. Incorporators: Chas. H. Weller, Harvey D. Hall, Leo J. Cain.

KENILWORTH, N. J.—Kenilworth Rubber Works; capital, \$60,000; to make automobile tires. Incorporators: Geo. B. Bradshaw, Lester F. Dittenhoefer, Edward W. Lawlor.

MARTINSVILLE, OHIO.—Clucker & Hixson Co.; capital, \$2,500; to make and sell accessories. Incorporators: C. E. Westervelt, C. L. Hixson, Melcena West Hixson, W. B. Jackson, F. A. Kehr.

NEW YORK CITY.—Senora Motor Horn Co.; capital, \$50,000; to manufacture automobile supplies. Incorporators: Russell Goldman, A. Foshay, H. Neuhardt.

NEWARK, N. J.—Gray Specialty Co.; capital, \$125,000; to make automobile supplies. Incorporators: Edward Gray, Edward Gray, Jr., Theo. F. N. Gray.

RACINE, WIS.—Kelly-Racine Rubber Co.; capital was increased from \$500,000 to \$1,000,000.

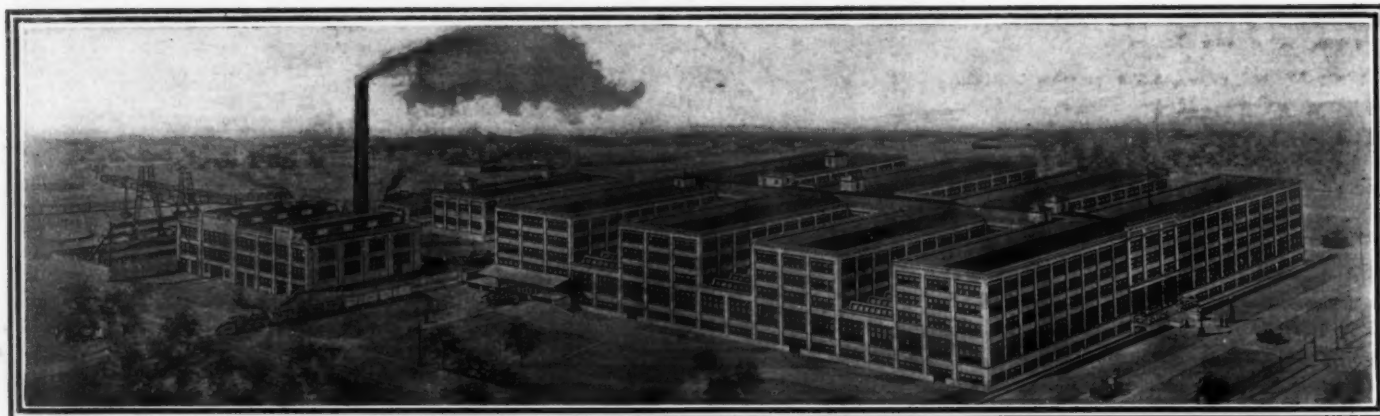
RICHMOND, VA.—Hutzler & Co.; capital, \$25,000; to handle automobile supplies. Incorporators: H. C. Beattie, Sr., Jonas Marcuse, Leroy Hutzler.

SAN FRANCISCO, CAL.—Halliwell Company; capital, \$50,000; to handle accessories.

VINITA, OKLA.—Vinita Automobile Co.; capital, \$10,000; to deal in motor cars. Incorporators: Walter A. Cronan, M. R. Kapp.

WILMINGTON, DEL.—Lake Shore Building Co.; capital, \$400,000; to operate garage.

OF INTEREST *to the* INDUSTRY



AKRON, O.—The magnificent new plant of the Firestone Tire & Rubber Company illustrates the wonderful growth in the automobile and tire industry. Less than a dozen years ago the company occupied a small factory employing only a score of hands. The new plant, covering many acres of ground, includes the largest tire building in the world and employs thousands of hands.

SYRACUSE, N. Y.—F. V. Coville has been appointed buyer for the H. H. Franklin Manufacturing Company, succeeding W. G. Lindsey, who resigned.

BOSTON, MASS.—The Boston branch of the Lenox Automobile Company has been moved from 16 Pleasant street to Columbus avenue.

BALTIMORE, MD.—The Goodyear Tire and Rubber Company, of Baltimore, has been conducting an exhibition of the no-rim-cut and non-skid Goodyear tire at its headquarters, 533 North Howard street.

BOSTON, MASS.—The building at 1070 Boylston street is now being remodeled and when the work is completed the Metz company will move into it from their present salesrooms on Huntington avenue.

FLINT, MICH.—After having been connected with the W. A. Patterson Company for several years, Patrick H. Doherty has resigned to become associated with Benjamin Rozensweig, Jr., in the auto parts business.

SYRACUSE, N. Y.—Bert S. Bingham, district manager in New York and Pennsylvania for the Regal Motor Car Company, has just closed a 1912 Regal contract with the Syracuse Regal Auto Company, 1205 West Genesee street.

FLINT, MICH.—Floyd A. Allen, acting assistant to General Manager Nash of the Buick Motor Company, has been promoted to the position of assistant secretary and treasurer of the company, with headquarters at the local plant.

ATLANTA, GA.—The Velie Motor Vehicle Company, of Moline, has opened a branch house at No. 247-249 Peachtree street, Atlanta, Ga., for the purpose of distributing the line of automobiles and trucks throughout the southeastern part of the United States.

LANSING, MICH.—The Olds Motor Works is to open a branch in Saginaw for the distribution of automobiles in that city and surrounding territory. William H. Watt will be in charge of the branch. The property selected is just off Jefferson avenue in Saginaw.

BALTIMORE, MD.—The latest truck to enter this field is the Federal, which is being handled by the Oakland Sales Company, representatives for the Oakland car, 107 West Mount Royal avenue. The company is the distributor for the truck in Maryland, Virginia and the District of Columbia.

JEFFERSON, WIS.—The Kenzler-Waverly Motor Co. has started work on the first unit of its new plant here, which will be a factory building, 60 x 100 feet and two stories high. The concern is a consolidation of the Waverly Mfg. Co., of Milwaukee, and the Kenzler-Waverly Co., of Cambridge, Wis.

TOLEDO, O.—The Mather Spring Co., which manufactures automobile springs, is building a handsome factory structure near the Willys-Overland plant. It will be ready for occupancy within a few weeks. The new plant covers a ground space of 80 x 400 feet and is constructed entirely of steel and brick. The working department is on the ground floor. The company is headed by Gordon Mather.

PHILADELPHIA, PA.—The Hess-Bright Manufacturing Company, makers of ball bearings, announce that they have received word from the Deutsche Waffen-und Munitionsfabriken, for whom they are importers, that the DWF have just been awarded the "Grand Premio" at the In-

ternational Industrial and Trade Exhibition of Turin, this being the highest distinction.

AKRON, O.—The annual meeting of the stockholders of the Diamond Rubber Company was held October 18, when the regular 3 1-2 per cent. dividend was declared, and in addition an extra dividend of 2 1-2 per cent. Officers elected were: F. A. Hardy, president; A. H. Marks, vice-president and general manager; W. B. Miller, secretary; A. H. Noah, treasurer; Guy Norward, assistant treasurer.

NEW YORK CITY.—An increase of 60 per cent. in shipments of cars over the same month last year is shown in the September traffic report of the United States Motor Company. The outbound shipments filled 1,090 carloads of Maxwell, Stoddard-Dayton, Columbia, and Brush cars, and Sampson freight and delivery motors. Eighty-five railroads shared in carrying this record breaking tonnage to all corners of the world.

TOLEDO, O.—The Champion Spark Plug Co. this week purchased from the Irving B. Heiett Co. a 1 1-2-acre building site on the Lake Shore railway tracks at Upton and Avondale avenues. Work will be started immediately on a new and modern fire-proof plant of the Monitor type, the building to be 102 x 72 feet. Robert Stranahan is president of the company, which came to Toledo from Boston a year ago.

MILWAUKEE, WIS.—The Yale Mfg. & Sales Co., Manufacturers' Home building, Milwaukee, manufacturing motor car signals and accessories, has purchased the entire plant of the defunct Oostburg Foundry Co., of Oostburg, Wis., and will in the future concentrate its manufacturing activities at Oostburg, the sales and executive offices remaining in Milwaukee. The Oostburg plant is one of the most complete in the northwest and ideal for the purpose.

PATENTS GONE TO ISSUE

BLOW-TORCH—Combination of two gas outlets from separate gas vessels.

4. The blow-torch referred to in this patent (Fig. 1) comprises a cylindrical body formed with a slot in its wall and provided with concentric air and gas passages which have a common orifice, the passages communicating through an opening. Between the opening and orifice an apertured wall is placed in the air passage and means are provided for dividing the air passage between the wall and the orifice into a plurality of concentric passages. Within the air passage there is a tubular member having an apertured flange bearing against the wall. On the body is mounted a rotary sleeve rigidly connected with the tubular member mentioned which extends through the slot in the wall of the body.

No. 1,006,034—to Jacob Weintz, Cleveland, Ohio. Granted October 17, 1911; filed July 9, 1910.

ODOMETER—Milemeter in which the indicator disc is regulated by a spring.

2. The odometer consists of a wheel or disc rotatable to give a desired indication; a spring tending to bring the disc to a zero position is fixed at one end to the disc, while the other end is adapted to make shifting engagement or anchorage with fixed teeth; means for retaining the disc in any position that it is brought to and a release device operable upon the retaining means in such a way that the disc is left to the action of the spring.

No. 1,005,845—to Joseph W. Jones, New York. Granted October 17, 1911; filed August 7, 1908.

AIR-COMPRESSOR—Apparatus for condensing and cooling atmospheric air.

5. The compressor described in this patent (Fig. 2) is a combination of a power cylinder provided at one end with a connecting member adapted to deliver a fluid

thereto, and an axially disposed pumping cylinder at the other end of the power cylinder. Pistons working in both cylinders are connected with one another, and means are provided for permitting the passage of fluid past the power-cylinder piston in the direction of the connecting member. The pumping cylinder is provided with inlet and outlet ports, and the power cylinder has an inlet on the opposite side of its piston from that occupied by the connector.

No. 1,005,940—to Charles Jerome Costello and Stephen Guion Skinner, Chicago, Ill. Granted October 17, 1911; filed January, 23, 1911.

CRANKING DEVICE—A system of engine starting by means of compressed air.

1. This patent relates to an engine starter as the one shown in Fig. 3, which is operatively connected with one end of the crankshaft. The rotary device communicates with an air-storage tank, containing compressed air, by means of a plurality of air passages, valves being used to control the flow of air in these passages, the valves being operated by a hand lever and mechanism adapted to close and open these valves. An air passage between the passages above mentioned leads to the connection between the rotary device and the engine shaft.

No. 1,006,063—to John S. Clarke, East Cleveland, Ohio. Granted October 17, 1911; filed July 1, 1910.

DRIVE FOR AUTOMOBILES—Transmission of power to wheels through two driveshafts.

The manner of driving two wheels (Fig. 4) is the subject of this patent, which covers the combination of a frame supported on these wheels with driveshafts, one being geared to each wheel, the shafts converging toward a point at a distance horizontally from the axis of the wheels mentioned. At the point of convergence a balance gear is mounted on the frame and it is adapted to rotate the shafts and per-

mit independent motion of the shafts, which, together with the gearing, are enclosed in casings secured to the driving wheels, converging toward each other and united at their adjacent ends.

No. 1,005,863—to William M. Miggett, Ann Arbor, Mich. Granted October 17, 1911; filed December 31, 1909.

INTERNAL COMBUSTION ENGINE—Engine of the rotary-valve type, the valve having a main and an auxiliary port.

5. The illustration (Fig. 5) is of an internal combustion motor with a working cylinder having main intake and exhaust ports, and a valve mechanism controlling these ports including a rotary valve, having a main port adapted to register with the exhaust port, and also an auxiliary port at an angle to the main port. Means are provided for rotating the valve from the crankshaft, and for shifting the valve to bring the auxiliary port into operation.

No. 1,006,095—to Russell Huff, Detroit, Mich. Granted October 17, 1911; filed May 11, 1911.

RUNNING-GEAR—System of chassis suspension.

1. The patent refers to a running-gear, front and rear axles, a reach connecting them which has rear hounds, the axle comprising substantially flat elongated bars having L-shaped ends, one secured above and one below on the rear end of the reach and the hound, stub axles having bodies arranged between the L-shaped ends, bolts penetrating the L-shaped ends and the bodies, the bolts being extended upwardly, thus affording means for holding a wagon body in place, wheels for the front axles and stub axles, and connections between the bodies of the stub axle and the front axle to cause them to oscillate in unison.

No. 1,005,909—to Fleming H. Weaver, Griffin, Ga. Granted October 17, 1911; filed April 29, 1911.

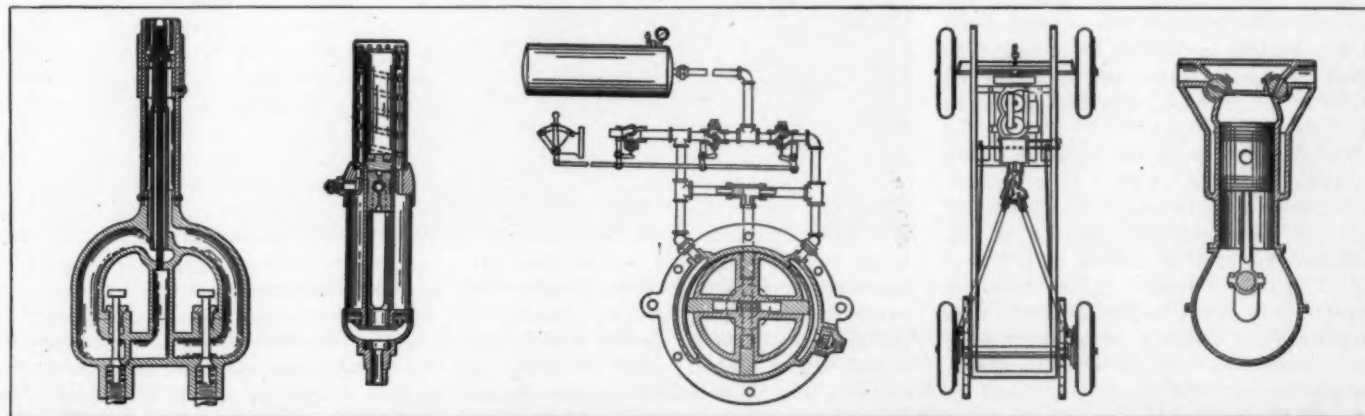


Fig. 1—Weintz blow-torch. Fig. 2—Costello-Skinner air compressor. Fig. 3—Clarke cranking device. Fig. 4—Miggett drive. Fig. 5—Huff engine

Newest Ideas Among the Accessories

Neverout Radiator Heater

THE Neverout Radiator, Figs. 1 and 2, is made with the object of keeping the circulating water in the piping system of an automobile warm and in circulation, while the motor is not working, and the car, in a good many cases, standing in a cool place. The garage type of heater is seen in Fig. 1, where it is temporarily attached to the radiator, by hooking the

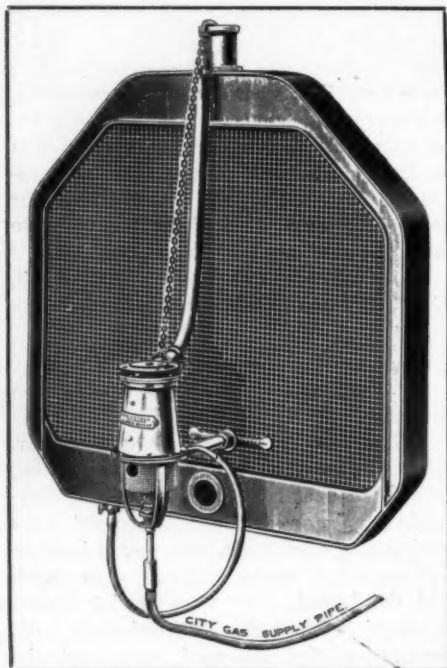


Fig. 1—Neverout radiator heater, garage type

apparatus on to the filler hole, after removing the radiator cap. The bracket of the device is made to bear against the face of the radiator, while one tube is used to connect the heater to the petcock of the radiator, and the other to permit of feeding city gas to the burner contained in the heater. After opening the petcock and lighting the burner, the water which flows to the heater, or boiler, as it might be called, is rapidly heated and raised to the height of the filler cap, thus keeping up the circulating of the water.

The original type of the Neverout heater is shown in Fig. 2, where it is permanently attached to the radiator. The burner of this type burns acetylene gas and is connected to the tank by means of a rubber tube. This type of heater is a double-walled cylinder of about 4 inches in length with cross-staggered copper tubes connecting the walls, around and between which the acetylene gas passes. The flame is produced on a burner resembling the Bunsen type, and the oxy-acetylene flame has a temperature

of about 3,000 degrees at the tip of the inner cone. The double-walled jacket has a connection passing from its upper end through the lateral air space of the radiator and communicating by a concealed 1-4-inch copper tube with the upper radiator portion. The lower portion of the jacket is connected to the lower radiator regions in a similar way. This device is effective in keeping up the circulation in the cooling system with the power shut off, and it is claimed that by turning the flame to its maximum size the water in the piping may be made to boil.

The device uses about four times as much oxygen as it does acetylene, and under normal conditions it burns only about half a cubic foot of gas per hour, so that it is very inexpensive. At all events, this means of keeping the water warm is less expensive to keep the engine running, perhaps for a half hour or longer, only to avoid freezing of the cooling water.

The Neverout heater is manufactured by the Rose Manufacturing Company, 917 Arch street, Philadelphia, Pa.

Aviator Goggles

The aviator type of goggles is illustrated in Fig. 3. It is constructed with the idea to afford the eyes of the motorist a thorough and efficient ventilation. This is necessary, as otherwise vapor will accumulate on the inside of the goggle glass plates and obstruct the view of the automobilist as well as his well-being, so far as his eyes and their functioning are concerned. The body of the goggles is made of soft rubber, into which the oculars made of plate glass, are set. The tube surrounding the plates is made with air outlets directing a constant stream of cool air against the glass plates if air is permitted



Fig. 3—The Aviator goggles ventilate the eyes

to enter the tubes. This takes place through the medium of the air inlet which is of funnel shape and placed upon the communicating portion of the goggles between the two ocular portions. When the motorcar is in motion, the air striking the funnel-shaped rubber mouth is caught in the same and led through the rubber tubing to the outlets whence it flows to the inside of the goggle space. After sweeping over

the glass plates the air passes out through vents opposite the ones through which it came in, and after passing through part of the rubber tubing, leaves it at the right and left sides of the respective eyes. By ventilating the inner goggle space, the eyes are enabled to continue in giving off their surplus of moisture. If this process is restrained, the comfort of the eyes as well as their working capacity is impaired.

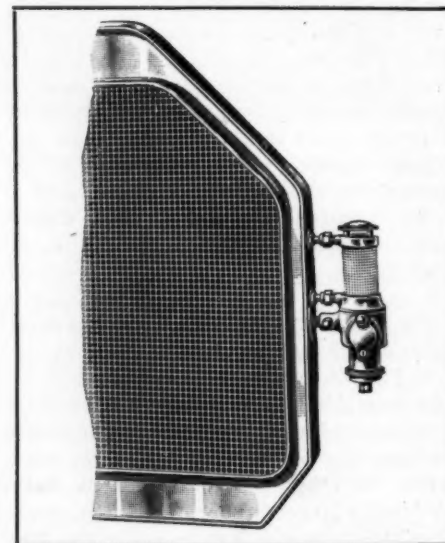


Fig. 2—Permanent type of Neverout radiator heater

The Aviator goggles, which are of a French make, are handled on this side by the W. C. P. Supply House, 1739 Broadway, New York City.

Buckeye Electric Drill

The Buckeye type of drill is a portable breast drill of convenient shape, to which has been adapted an electric motor drive. The motor has been given particular attention to make it both efficient and light. It is wound for either alternating or direct current, as well as a combination winding which will enable it to be operated on the same voltage in either alternating or direct current. The latter winding, however, is not recommended, unless it be a necessity. The drill is reversible by manipulating the motor, so that when the drill breaks it is possible to prevent more serious damage by reversing the motor. Besides being used for drilling, this instrument is adapted to tapping. The spindle is brought into locking position by means of a special patented spindle lock. The weight of the entire outfit complete with cord and socket is 12 1-2 pounds. Capacity, zero to 3-8 inches. The drill is made by the American Foundry Company, Leipsic, Ohio.